Department of the Army
Pamphlet 100–1

Operations

Force XXI Institutional Army Redesign

Headquarters
Department of the Army
Washington, DC
05 March 1998

UNCLASSIFIED

SUMMARY of CHANGE

DA PAM 100–1
Force XXI Institutional Army Redesign

This new pamphlet--

- Describes how information age warfare in the 21st century will affect the ability of the Institutional Force to organize, train, equip, project, and sustain the Operating Force.

- Provides a common vision of the redesign objective for the Institutional Force.

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Operations

Force XXI Institutional Army Redesign

By Order of the Secretary of the Army:

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History. This printing publishes a new publication.

Summary. This pamphlet describes how the implications of information-age warfare and stability and support operations (SASO), conducted in the early 21st century by Army XXI, will affect the ability of the Institutional Force to organize, train, equip, project, and sustain the Operating Force. The Institutional Force presently consists of Headquarters, Department of the Army, major Army commands (MACOM), and associated field operating agencies (FOAs) and staff support agencies (SSAs) of the active Army, the Army National Guard and the Army Reserve. This pamphlet provides the Institutional Army General Officer Steering Committee (GOSC), the Title 10 Functional Area Assessment (FAA) task forces and the internal MACOM reengineering task forces a common vision of the redesign objective for the Institutional Force to effectively and efficiently support the redesigned Army warfighting organizations.

Applicability. This pamphlet applies to all elements of the Active Army, Army National Guard and U.S. Army Reserve.

Proponent and exception authority. The proponent of this pamphlet is the Deputy Chief of Staff for Operations and Plans. The proponent has the authority to approve exceptions to this pamphlet that are consistent with controlling law and regulation. Proponents may delegate the approval authority, in writing, to a division chief, with the proponent agency in the grade of colonel or the civilian equivalent.

Supplementation. Supplementation of this pamphlet and establishment of command and local forms are prohibited without prior approval from HQDA, DAMO-FDF, WASH DC 20310–0400.

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Chapter 1
Introduction

1–1. Purpose

a. This pamphlet presents a conceptual framework for redesign of the Institutional Force as a consequence of future conditions imposed by the National Military Strategy (NMS), ongoing transition from the industrial to the information age and the probable impact of Army XXI on the conduct of military operations. None of these conditions in itself might justify consideration of a fundamental reform in the way the Institutional Force is organized and operates. However, coming as they do in conjunction with what may be a prolonged period of constrained defense appropriations, the need for a significant restructuring of both the Operational Force and the Institutional Force is clear.

b. DA Pamphlet 100–1 provides a concept for the Army's Institutional Force to develop, generate, project and sustain the Operational Force in military operations in the 21st century. Like TRADOC Pamphlet 525–5, this is not a doctrine, but a document of ideas expressed in coherent form, consistent with the principles set forth in the Institutional Force Redesign Charter. The functional and organizational alternatives presented herein are not directive. Rather they are intended as a conceptual framework for discussion, experimentation and analysis, to be modified during the institutional reengineering and redesign processes.

c. DA Pamphlet 100–1 provides a vision of how the Institutional Force could support the Operational Force in the future. It is a living document to be updated during the transition to Army XXI and ultimately will be the foundation upon which an institutional doctrine can be built.

1–2. References

Required and related publications are listed in appendix A.

1–3. Explanation of abbreviations and terms

Abbreviations and terms used in this pamphlet are listed in the glossary.

1–4. Scope of Duty

The Deputy Chief of Staff for Operations and Plans will serve as the senior Army official for publishing and printing guidance for Force XXI Institutional Force redesign.

Chapter 2
The Future National Security Environment

2–1. Strategic Considerations

a. The end of the Cold War has reduced but not eliminated the most immediate threat to the security of the United States (U.S.) and the other western nations. However, the U.S. retains global interests and obligations that in some ways have increased. Indeed, the President's National Security Strategy (NSS) presents a broad listing of international security risks and interests that underscore the need for the U.S. to maintain adequate military forces. Military engagement will be selective as the situation requires: unilateral when vital U.S. national interests are directly involved; in alliance where mutual and global interests are involved. The NSS foresees the employment of U.S. forces in both war and in situations short of war.

b. The absence of a dominant identifiable threat has produced a far more complex and confusing international strategic environment. Experience since the end of the Cold War has revealed an era of turmoil, crisis and conflict that foreshadows a protracted period of strategic reordering that will likely continue into the early decades of the 21st century. The National Military Strategy (NMS) has as its military objective the capability to conduct two nearly simultaneous major regional contingencies. It serves as the foundation for the drawdown of forces and withdrawal and restationing of forces from overseas bases, providing for a reduced strategic forward presence. This strategy emphasizes force projection and the tailoring of force packages as necessary. It requires reserve forces more ready, capable, modernized, integrated and available than ever before.

2–2. The Army's Role

a. The Goldwater-Nichols Act of 1986 directed that the Chairman of the Joint Chiefs of Staff (CJCS) report to the Congress every three years on the effectiveness of the armed forces by analyzing roles and missions. The reports rendered in 1989 and 1993 failed to produce what Congress considered a comprehensive review that reflected the conditions of the post-Cold War strategic environment. Therefore, a directive for an independent commission was issued. The Commission on Roles and Missions (CORM) delivered its report in May 1995. It is unclear which recommendations will be approved. Congress desires a comprehensive analysis of the types of military operations that may be required in the post-Cold War era, and the definition and distribution of service roles and functions in performing missions directed by the combatant commanders. In directing the appointment of the commission, Congress recognized that it is difficult for an organization to reform itself without the benefit and authority provided by external perspective and analysis.

b. In assessing the new strategic environment and the experience gained in operations such as JUST CAUSE, DESERT SHIELD/DESERT STORM, PROVIDE COMFORT and UPHOLD DEMOCRACY, the Army has begun a comprehensive review of its role in the future and how its forces will contribute to the operational missions of combatant commanders. The revision of Field Manual (FM) 100–5, Operations in 1993 and the publication of Training and Doctrine Command (TRADOC) Pamphlet 525–5, Force XXI Operations in 1994 reflect that recognition of the need for change. The role of the Army as provided by Title 10, Section 3062 of the United States Code (U.S.C.) was not affected by any CORM recommendation and is unlikely to undergo any significant revision. Title 10 states:

> It is the intent of Congress to provide an Army that is capable, in conjunction with the other Armed Forces, of preserving the peace and security...of the United States...supporting the national policies...implementing the national objectives...and overcoming any nations responsible for aggressive acts that imperil the peace and security of the United States. (The Army) shall be organized, trained, and equipped primarily for prompt and sustained combat incident to operations on land...(and) is responsible for the preparation of land forces necessary for the effective prosecution of war except as otherwise assigned and, in accordance with integrated joint mobilization plans for the expansion of the peacetime components of the Army to meet the needs of war.

c. To conduct "prompt and sustained combat incident to operations on land," there are two dominant, encompassing competencies from which all related Army functions and subordinate competencies derive: preparing for and conducting military operations. The Army is an institution that performs the departmental processes and contains the Army's essence, tradition, history and lineage, and forms the repository of enduring values, such as courage, integrity and competence, to name a few. It is the Institutional Force, comprised of both military and civilian personnel, and, vicariously, elements of the private sector, that is charged to prepare for military operations by delivering forces ready to conduct prompt and sustained land combat, to sustain them throughout the duration of the operation and to recover them upon completion of operations. The purposes of the Institutional Force are:

(1) Organizing-designing, manning and equipping ready units.

(2) Preparing the Army-training soldiers and units; identifying and developing leaders.

(3) Providing Forces for Deployment-planning for, mobilizing and deploying units.

(4) Sustaining the Army-provisioning of consumables and materiel; maintenance of equipment and facilities; continuous modernization; replacement of units and soldiers, and provision of services.

The Operational Force is deployed to conduct military operations. The Army exists to carry out the national policies and objectives and preserve the peace and security of the U.S. through applied use, or threat of use, of force. The Army must be capable of fighting and winning the nation's wars by defeating enemy forces in land combat in joint and combined operations. The Army must always embody that capability; but the Nation uses the Army and its capabilities for disciplined control and discriminate application of force for a wide variety of purposes. The international purpose of military power is defined as follows: Military power exists to compel an adversary to yield to our will as a result of our use of or threat to use destructive power. The mere existence of that power, and the evident ability to use it, allows us to deter others from acts inimical to our interests. An added benefit of having forces available is the ability simultaneously to reassure and support...friends and allies (by which we)...demonstrate our capabilities and contribute to our ability to influence international events. These capabilities are exemplified by the international uses of power depicted in Figure 2–1 below:

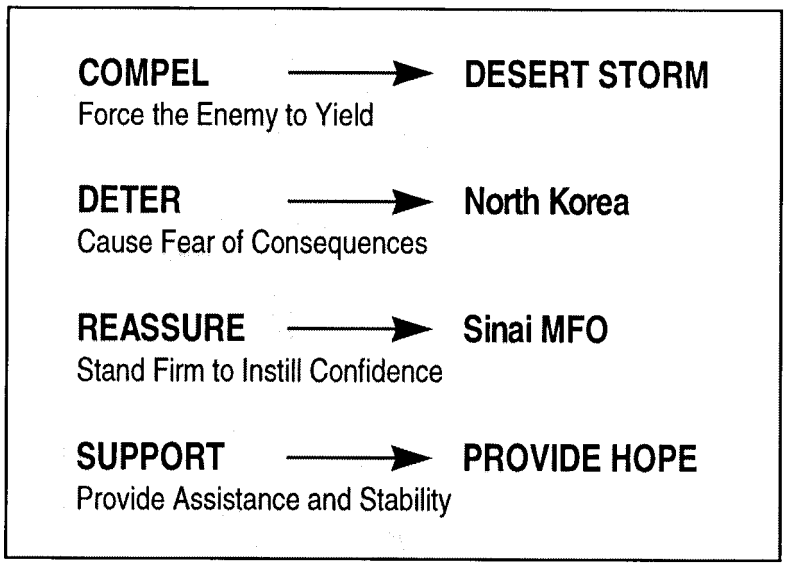

Figure 2-1. International Uses of Military Power

2–3. Future Defense Resources

a. The aftermath of the Cold War has seen a decline in expenditures on defense, with a projected 35% reduction in outlays from 1990 to 1999. This follows the significant increases in peacetime defense spending in the 1980s. Furthermore, the defense budget now funds programs, such as environmental remediation, base closure, transition benefits and defense conversion and dual use technology which only recently were recognized as proper defense expenditures (Fig 2–2).

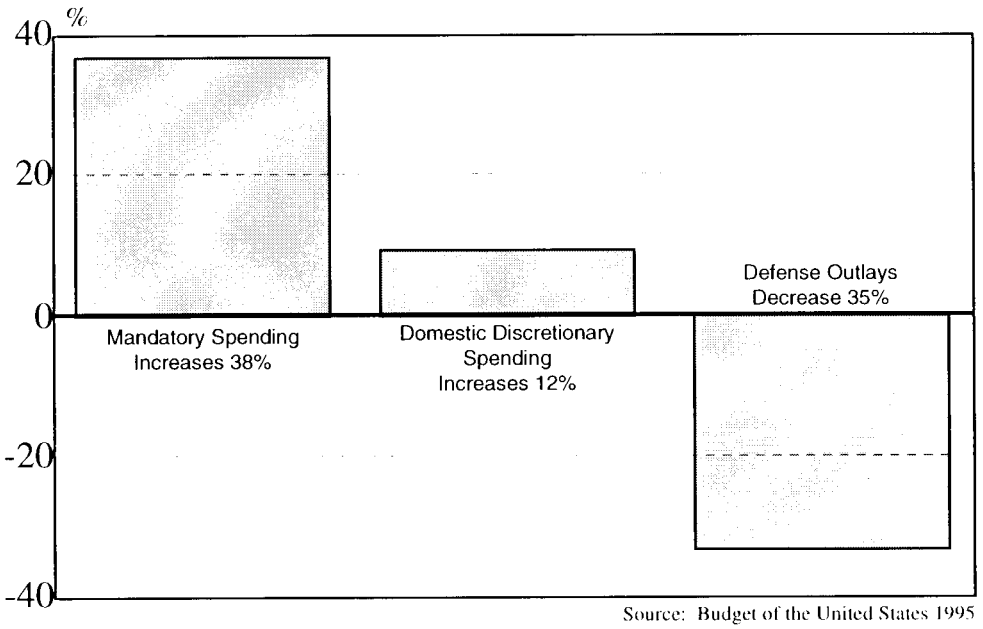

Figure 2-2. Cumulative Real Changes FY 1990 - FY 1999

b. By 1992, the size of the national debt led both the President and Congress to launch serious efforts to reduce the deficit. The desire to shrink the size of both the debt and government itself ensures that strong justification must accompany all future budget requests, including those of the Defense Department. The Reinventing Government initiatives must drive the Army to find better, more efficient ways of doing business. Absent the emergence of a significant international threat to U.S. national security interests, it is likely that the gradual decline in Army budget authority will continue indefinitely. It is in this context that a redesign and reengineering of both the Operational Force and Institutional Force must be accomplished.

c. The Army has embraced a process for change, adaptation and redesign called Force XXI; the product of this process will be Army XXI. Redesign of the Army XXI Operational Force will proceed under TRADOC lead, based primarily on experimentation involving the digitized brigade, division and corps. The redesign process will be procedurally complex but structurally simple. Army force managers will analyze the number and mix of unit modules required, compare alternatives with projected active and reserve component end strength and establish a force program. Redesign of the Institutional Force is much more difficult. There are currently no doctrinally established modules except at the installation primary staff level. In addition to available military end strength, which is projected to level off in 1996, there is civilian end strength (or work years), which is programmed for continued decline, and emerging enthusiasm for outsourcing and privatizing many support functions, though limited by regulatory and statutory restrictions. The greatest obstacle to redesign and further downsizing is that the Institutional Force contains the infrastructure through which the Army maintains its identity and by which it develops, generates, deploys and sustains its operational forces. Although it has great resilience, continued reductions could eventually drive it below some critical level where it can no longer function adequately. Thus the Institutional Force must reengineer itself to provide the support required of the Operational Forces, but at greatly increased efficiencies. The Army will need to fully integrate its operational focus with the institution through a common doctrine and employ, to the extent practical, the characteristics of modularity and tailorability in designing and linking both types of forces.

d. A study performed for the U.S. Army in 1992 analyzed Army budget expenditures for the period 1962 to 1989 to determine what the historical levels of spending had been for the "Tables of Distribution and Allowances (TDA) Army" and what the possible areas of leverage might be for controlling future TDA expenditures. The study found that for the 28-year period the average share of the Army budget for the TDA Army was 50.2% and that this level varied less than 5%, even during the Vietnam War. The highest three accounts on average were Base Operations (20%), Supply and Maintenance (19%), and Research, Development, Test and Evaluation (15%). It was noted that the TDA spending patterns had been less flexible, that is, more constant than Table of Organization and Equipment (TOE) patterns, indicating that a larger proportion of the TDA budget was "fixed" and therefore less malleable to reduction. Moreover, the highest budgetary accounts tended to be the least malleable. The study group concluded that the "TDA" would be resistant to budget reductions, but that the best hope for reducing its costs might lay in what were termed the strategic factors. This means that factors such as base closures, increased warning times, lighter more deployable forces and a force projection strategy could have effects that would overcome the size and malleability constraints that historically limited TDA budget reduction. As the Army reduces its overseas presence and increasingly relies on total power projection from a Continental United States (CONUS) base to execute the national security strategy of engagement and enlargement, the magnitude of the Institutional Force's mission increases accordingly. The requirements to actually project the power have rarely been so frequent as they have been since the collapse of the Soviet Union (Desert Storm, Somalia, Rwanda, Haiti, Iraq, Bosnia, and so on). To that can now be added the implications of Force XXI operations; not only the ways in which information-age technology can be employed by field commanders in operations, but by leveraging the efficiencies that information-based technology can impart to training, mobilization, deployment, sustainment, services and other

institutional functions. Furthermore, it will be possible to adapt technological advantages that make battlefield systems more effective directly to some of the core processes employed by the Institutional Force.

2–4. Summary

As the Army faces the future and a national security environment in which its missions appear to be multiplying even as its forces are being reduced, its fundamental role is unchanged. As both an institution and a fighting force, the Army will be called upon to compel, deter, reassure and support now and into the 21st century. Throughout the period of transition from industrial to information age operations, domestic economic policies are likely to stringently curtail defense spending. Much is being done to redesign the Operational Force, technologically and organizationally, across the domains of Doctrine, Training, Leader Development, Organizations, Materiel and Soldier Systems (DTLOMS), to meet the challenges of the information age and the 21st century. That is the promise of Force XXl. The Institutional Force, embodied in the infrastructure that supports the Operational Force, must be redesigned and reengineered in ways that have not been tried before. In addition to the personnel reductions and management efficiencies that have already begun, it will be necessary to leverage the strategic factors and technologies that may attend the transition to Force XXI operations, to discover new approaches toward doctrinal, structural and acquisition reform of the Institutional Force and blend it with the Operational Force in a common body of doctrine and technology.

Chapter 3
Army XXI Operations

This chapter establishes the future operational framework within which a redesign of the Institutional Force will be undertaken. This is done by presenting an abridgment of the most significant aspects of Army XXI operations drawn from TRADOC Pamphlet 525–5. The reader familiar with that work may turn directly to Chapter 4 and continue. This chapter begins with a short threat assessment. Next, there is a description of full-dimensional operations and the changing battle dynamics that will enable future commanders to move from capability-based to knowledge-based operations. Finally, the possible implications that Army XXI operations may have for the redesign and reengineering of the Institutional Force are discussed.

3–1. The Changing Nature of the Threat

a. Since 1917 the threats to U.S. national security have been clearly recognizable, if not always resolutely challenged. In the 21st century, however, the world's geo-political framework will continue to undergo the dramatic restructuring that began with the collapse of international communism in eastern Europe during the 1980s. The power balances that provided a measure of armed stability throughout the Cold War era, and the nation states that were the world's primary political units, are changing throughout much of the world. Nationalism in economics, demographics and technology is creating more permeable borders and is destabilizing countries. This will lead to a time of instability. The interplay of trends in economics, demographics and information technology will lead to a period of intrastate stability. Of the possible futures, the most dangerous would be the rise of states capable of competing militarily with the U.S. on a global scale. The U.S. should not face a competitor who rivals it in global military capability, either in technology or in the ability to project force globally. More likely is a continuation of the present geopolitical environment, in which nations are the locus of military power. Within regions, states that intend to dominate their region will present military challenges to the U.S. Because of trends in weapons and technology proliferation, and their use of asymmetric tactics, a regional enemy could defeat the U.S. on the battlefield or deny the U.S. its strategic aims.

b. The U.S. will face a range of potential threats ranging from Information Age forces to gangs. The opposing forces will be based on conventional militaries employing a mix of armor-mechanized and light forces. Their modernization, targeted against their neighbors, will incorporate such high payoff areas as cruise and ballistic missiles, chemical and biological warfare and information warfare. Other, non-state forces will include terrorists, criminal gangs and ethnic or nationalist groups that resort to conflict to achieve political gain. In addition to threat forces, the Army may respond to events that can require a military response, such as natural disasters.

c. Future conflicts may involve simultaneous operations against adversaries of varying capabilities. The Army will face opponents who employ primarily conventional forces, with pockets of high technology weapons. Chemical, biological and nuclear weapons will be present in this battlefield, which will incorporate urban and other terrain. Conflict will stretch beyond the battlefield to incorporate ballistic and cruise missile strikes, terrorism and information warfare. In any conflict, adversaries will attack the U.S. in asymmetric ways, that is, use lower level technology against us.

3–2. Future Land Operations

a. The future Army-Army XXI-must be prepared to face the full spectrum of operational environments described above. Army XXI is defined by the term full-dimensional operations which has as its foundation the following five characteristics:

(1) *Doctrine flexibility.* A living doctrine for the Total Force that can be adapted to the varied future strategic landscape, that will demand quality leaders and soldiers who can apply its principles to changing scenarios.

(2) *Strategic mobility.* The ability to deploy and sustain lethal, survivable, early entry forces to the right place at the right time. In addition to anticipating, moving and pre-positioning, strategic mobility will include the use of new information systems, split-based operations, new intelligence systems, broadcast intelligence and other applications of shared knowledge, provided almost exclusively by the Institutional Force, to facilitate deployments and to empower deploying leaders and units.

(3) *Tailorability and modularity.* Combat units that can be easily tailorable; combat support (CS) and combat service support (CSS) units, both operational and institutional counterparts, of modular design to simplify force packaging to suit varying requirements; staffs and command posts that are smaller; organizations that are flatter.

(4) *Joint-multinational-interagency connectivity.* All operations will be joint; most wars and stability and support operations (SASO) will also be multinational and multi-agency. Army forces, operational and institutional, must cooperate, interconnect and interoperate before, during and after operations.

(5) *Versatility.* Winning the Nation's wars is the absolute priority. Well trained and disciplined units, provided with time and resources, can be trained for SASO. Soldiers using information to achieve accurate and timely shared perceptions of the battlefield are critical in that they permit changes in the battlespace and potentially dominate the battlespace through different combinations of maneuver, fires and information operations. Information will allow the conduct of future full-dimensional operations by informing commanders and units of the full effect of all actions throughout the depth, height, width and time of the battlespace. Information operations will allow greater synchronization of effort, control of tempo and application of forces. Soldiers will gain a war fighting advantage in battlefield superiority in the development and deployment of state of the art information and weapon systems.

b. Innovations in technology and doctrine are the harbingers of change in warfare. Dramatic developments in both of these areas have resulted in a revolution in military affairs (RMA), sometimes referred to as a military technical revolution which will continue into the 21st century. An RMA occurs when the application of new technologies into military systems combines with innovative operational concepts or organizational adaptation to alter fundamentally the character and conduct of military operations. An example is the German Army's use of tanks, close support aircraft and mobile

radio communications, combined with innovative organization, procedures and tactics, to produce the "blitzkrieg" at the beginning of World War II. The technological advances in long range targeting, stand-off weapons guidance mechanisms and information warfare employed by joint forces in operations JUST CAUSE and DESERT STORM epitomize the revolution and offer a glimpse of the future. This glimpse has evolved into what are named battle dynamics. The battle dynamics provide the framework to describe change, experiment with hypotheses and help shape the vision of future military operations. Two key elements permeate the battle dynamics. First, in future joint land operations, force coherence and application of combat power can be achieved through shared knowledge of battlefield conditions versus traditional control measures. Second, trained soldiers and leaders have a common perception and understanding of the doctrinal applications of the new technologies. The current battle dynamics characteristics include:

(1) *Battle command.* Battle command is the art of battle decision-making, leading and motivating informed soldiers and their organizations into action to accomplish operational missions. Future battle command starts with competent commanders and leaders who have developed an intuitive sense of battle gained from study and experience. Despite advances in information technology, commanders will never have perfect knowledge. Yet, due to the pace of battle they must, more so than in the past, accept uncertainty and not hesitate to act in favor of waiting for more information. The ability to move and process information rapidly will greatly influence force organization command procedures, and staff systems. The existence of both hierarchical and non-hierarchical processes will necessitate the use of broadcast enemy and friendly information and the integration of this information into digitized images that will depict a unit's actual battlespace. Collective unit images will form a picture based on shared, real-time awareness of the arrangement of forces in the battlespace. Moreover, CS and CSS leaders, horizontally linked by common information, will, for the first time, be able to visualize how they will execute in harmony, integrated by a shared vision of the situation. The Army Battle Command System (ABCS) will include both hierarchical and internetted processes. For example, key force level control orders associated with direct application of combat power may remain in the hierarchical domain. Information on services, or logistics, movement control, air defense warning or intelligence can be reached by pull-down information carousels. Other functions may use both means. Such shared information, where in some cases subordinates have as much information as commanders, can change the dynamics of leadership in ways yet to be understood. Internetted information will greatly enhance all battle operating systems. Combatants may be able to directly coordinate their actions better through shared situational awareness than a higher level headquarters can by directive command. This future command system is dependent on the exercise of control over key portions of the electro-magnetic spectrum. Spectrum supremacy, the control and protection of friendly information systems while denying the enemy the use of their systems, will be critical. In the future, full-dimensional information operations must be fully integrated into every phase of the operation. This will mandate a dramatic increase in data communications band width on the battlefield. Commercial communications technology must be leveraged but "high reliable communications at high data rates" is imperative. Without this there can be no effective battle command in the information age. While technology will be a significant aid in battle command, the chaos of war requires the adaptability, judgment and intuition only the human dimension-the commander-can bring.

(2) *Battlespace.* A joint concept, battlespace is closely associated with the components of battle command. Battlespace involves the ability to visualize the area of operations and the way forces interact. The size, shape and density of a unit's battlespace are variable and influenced by the mission, enemy, troops, terrain and time available. In a physical sense, battlespace is that domain determined by the maximum capabilities of a given unit to acquire and engage the enemy-capabilities that will be greatly expanded by future technology. U.S. forces will be able to dominate an expanded battlespace by being more lethal and survivable and able to operate at a tempo greater than the enemy. The trend in combat will be to have fewer soldiers in a given battlespace; in SASO the trend will be for it to be manpower intensive. Information operations influence battlespace by providing the commander the means to better visualize the battlespace while blinding or confusing an opposing commander's vision. Expanded battlespace will allow simultaneous engagement by joint warfighting systems to gain a lethal reach over the enemy and to provide a maneuver force overmatch when maneuver alone cannot perform the mission. With an increasingly empty battlespace, expansion will be achieved through improvements in manned and unmanned target acquisition systems and precision strike capabilities. Overmatches in the elements of combat power-maneuver, firepower, force protection, leadership and information-will be necessary to dominate and expand the battlespace.

(3) *Depth and simultaneous attack.* Combining the concepts of deep operations and simultaneous attack using both lethal and nonlethal means can extend the battlespace in space, time and purpose. This will reduce, if not eliminate, the need to shape the battlefield to facilitate the full-dimensional attack of an enemy center of gravity and accelerate his defeat. Depth and simultaneous attack overload the enemy's ability to cope by presenting an overwhelming number of actions throughout the depth of the battlefield. By massing the effects of long and short range area and precision fires, integrating information operations designed to blind, deafen and demoralize the enemy, concurrent with rapid combined arms maneuver, a larger and less agile enemy force can be quickly defeated. Although these attacks may not be simultaneous in application, from the enemy's perspective they will appear seamless and nearly simultaneous in effect. Successful depth and simultaneous attack will increase the demand on intelligence systems. Selected sensor systems, including unmanned aerial vehicles (UAV), will serve as weapons platforms capable of sensing, locating, identifying and attacking targets and afterwards assessing damages. All acquisition systems will have fusion links to attack assets. A key component of depth and simultaneous attack will be measures taken to win the information war. Command and control warfare may replace air supremacy as the essential first step in operations. Successful depth and simultaneous attack will depend on leveraging technology in four general areas: battle space preparation; synchronization; execution; and force protection. The principle of simultaneous operations also applies to SASO. Sequential actions often are too slow in both peacekeeping and disaster relief operations. Control of the entire operational area may have to be applied simultaneously and continuously throughout the conduct of the operation.

(4) *Early entry.* This dynamic is one in which change for U.S. forces is most dramatic, where the relevance of the force projection Army to the current and near future strategic environment is most notable. Innovative combinations of forces consisting of light, heavy and special operations will be tailored to the needs of the contingency. The early entry force will likely have a sizable reserve component. A civilian/contractor contingent from the institution will not be unusual, especially in SASO. Early entry could be a lengthy, protracted process as United Nations operations are today, and established rules of engagement may be essential. Nonetheless, the objective will be rapid and simultaneous application of force or control as quickly as possible. The actions of an early entry commander may be tactical, but can have strategic and international repercussions. Success in early entry operations will establish American military credibility and will be subject to instant and incessant media coverage, which can play a part in the outcome, hence the necessity of public affairs (PA) soldiers being an integral component of the early entry force and the logical accompanying need for new technologies in PA operations. Actions taken by the commander before and during the deployment will be critical to success. The commander will see the battlefield through national intelligence sources, organic sensors and intelligence systems deployed by our sister services. Continuous access to real world intelligence is a requirement for success on the battlefield. The commander will train

the staff and forces through a combination of virtual, constructive and live simulations in a mission planning rehearsal system (MPRS). Commanders must have access to high resolution terrain data to conduct effective planning on their MPRS. Rapid force projection to an objective area will be gained by synergy of deception and surprise, anticipation, rapid tailoring of forces, rapid deployment and skillful prepositioning. The early entry force must be prepared to fight its way in or, soon after arrival, expand its battlespace, take advantage of its lethality, survivability and control of tempo and win quickly or rapidly establish control.

(5) *Combat service support.* Combat service support includes logistics, combat health support and personnel service support. The logistics support of rapid projection forces from platforms in CONUS or forward bases, extended lines of communication and potential forcible entry into bare-based areas of operations, requires continued revision of current doctrine. Power projection logistics will necessitate weaving the current strategic, operational and tactical levels into a continuous system that integrates the reserve components and the Institutional Force, including civilians, as well as some form of contract support. The purpose of power projection logistics is to support mobilization, deployment, reception and movement, sustainment, reconstitution, re-deployment and demobilization.

(a) Strategic logistics includes the nation's industrial base and its link to military forces. The military elements of logistics will receive an unprecedented level of support from the Institutional Force and, in particular, the private sector. The primary focus will be on requirements determination, personnel and materiel acquisition, prepositioning, stockpiling, strategic mobility, deployment, re-deployment and demobilization. Industry will assume more responsibility for functions such as warehousing, maintenance and materiel management than in the past. Information-age links between the sustainment base and the combatant commander in uni-service, joint and multinational operations will reduce the need for Army-managed stockpiles and allow a true producer-to-foxhole sustainment system. There will be an increasing adaptation of commercial practices to military logistics. This means the Army must invest in a rapid distribution system as traditional stockpile systems are reduced.

(b) Operational logistics is the link between the sustaining base and the tactical forces. The links must be supported by redundant data communications capabilities. Roles and missions of the active and reserve components, relative costs and battlefield survivability of Department of the Army civilians and/or civilian contractors will all be assessed to provide the most effective use of each. Operational Force units will receive unprecedented level of support from the Institutional Force and, in particular, the private sector. Military units augmented by an expanded number of civilian, contractor activities and host-nation resources will be the norm. The primary focus will be on reception, discharge, onward movement of deploying forces, positioning of facilities, materiel management, movement control and distribution. In force projection operations the objective area's infrastructure will become a vital asset. When possible, prenegotiated host-nation support agreements will be operative. In the information age, more operational logistics will be accomplished by the CONUS power projection and support garrison platforms and less within the theater of operations.

(c) Tactical logistics will be the key to maintaining an optimum tempo of operations. Anticipating requirements is essential to this task and will be aided by total asset visibility. Logistics at this level has traditionally been performed by active and reserve component military units, but in the future, after careful consideration of proper roles and missions and battlefield survivability, may include the Institutional Force, both civilians and private sector contractors. A critical task will be to plan for the best mix of these assets to perform the mission. The primary focus is on the logistics support functions of manning, arming, fueling, fixing, moving and sustaining the soldier and his equipment.

(d) Personnel Service Support (PSS) provides the commander with the ability to man the force and sustain the human dimension of military operations. Manning operations in an information age mean that commanders and planners need accurate, near real-time strength information to make decisions. At the tactical and operational level Personnel Service Support information will support the commander's need to maintain a common relevant picture of the battlespace by providing an accurate, real-time picture of personnel readiness. The future PSS system will use the Army Battle Command System to provide numbers, grades and skills of soldiers available for operations, as well as other PSS data needed to portray the human dimension of battlespace. This information will be matched with equipment and other logistics status information to provide both operational and institutional organizations with a relevant picture of combat power, as well as the demand for Personnel Service Support to sustain operations .

(e) The same information used to assess readiness will also update Personnel Service Support systems on and off the battlefield to manage the personnel life cycle and provide Title 10 support to soldiers and their families. Support to the human dimension will continue to involve the planning and delivery of services based on a wide range of functions including: personnel services such as identification/documentation, evaluations, postal services, and morale enhancing activities; resource management; financial services; legal services; chaplain activities; and command information. Precision in planning for and allocating the resources necessary to support these activities will be extremely important due to the time considerations, reduced support tail ratio and expanded battlespace of future military operations.

(f) In the Army After Next, technology and organizational changes are likely to blur the distinction between Personnel Service Support performed at various echelons in the Operational and the Institutional Army. Technology advances that allow information to be shared nearly instantaneously between echelons will result in the internetting of data and information sharing between strategic level staffs, Field Operating Agencies and the battlefield. It will potentially reduce the workload on operational commanders, staffs and Personnel Service Support units in the field by shifting the focus of data collection and maintenance from the operational to the strategic level. The burden of collecting information relevant to Personnel Service Support requirements will be moved to strategic-level organizations in the Institutional Army which are then also responsible for planning, synchronizing and delivering support.

(g) Changes to the way staffs are able to interact with the field will profoundly affect the way organizations which provide Title 10 Personnel Service Support functions are designed. Organizations will tend to flatten as planning and programming information becomes more widely available. Technology will also cause a tendency toward centralization and wider spans of control. This tendency will be tempered by the need to remain responsive and ensure high levels of performance. "Keeping a soldier in the loop" will be a primary means of maintaining responsiveness. It will be balanced by the practical considerations of maintaining a trained and ready Army such as force structure costs, personnel rotation policies, leader development/training needs and civilian/professional/military education requirements.

(h) Personnel Service Support doctrine will support the execution of tasks in a digitized environment. The requirement to provide a full range of services for joint, combined, multi-agency (civilian and military) and even multinational forces will dramatically change the variety and complexity of tasks performed by Personnel Service Support organizations. The need to provide real time situational awareness, a reduced footprint forward, seamless systems integration and precise predictions of requirements will drive the Personnel Service Support systems architecture. The innovative application of technologies will build on the progress of Force XXI experiments and doctrine redesign to fundamentally alter the way tasks are conducted in support of commanders, soldiers and civilians on and off the battlefield.

3–3. Knowledge-Based Operations

a. Doctrine evolves to suit the conditions of time, place and situation. The doctrinal evolution of the 1970s and 1980s, developed when facing the Warsaw Pact, reflected a U.S. force outnumbered

and in the process of fielding an array of new weapons systems. As modernization progressed, the focus shifted toward defeating the echeloned attack of Soviet and Soviet-style forces. The doctrine of that time was threat-based and centered on a central European conflict-a prescriptive framework to focus combat power. Following the end of the Cold War and reflecting a multi-polar world, a force projection doctrine was developed. It is much less prescriptive because of the variables of possible scenarios, because it considers wider joint and combined integration and because it includes SASO. This capabilities-based doctrine reflects the blurring levels of war and includes multidimensional operations to mass weapons effects, whether the actions occur simultaneously or sequentially. It also opens the door to information operations. The next evolution will carry forward the idea of full-dimensional operations into Army XXl as the impact of information-age technology becomes available for U.S. soldiers and leaders. This is a concept of force coherence through shared knowledge. This general pattern of future knowledge-based warfare will be characterized by mission analysis, force tailoring, reconnaissance, decisive action and sustained operations or recovery.

b. As the time from crisis exposure, to military response, to conflict resolution continues to be compressed, tempo will grow in importance. The flow of military forces is conditioned by strategy, which affects tempo. Thus battlespace operations will be designed to control operational tempo. Tempo is more than speed; it is the adjustment in the rate of operations relative to situation, and assessment relative to the enemy's ability to sense and react. Victory in war will go to the force able to string together tactical victories faster than the enemy can respond. The potential offered by information operations is the ability to orchestrate apparent chaos on the battlefield-overwhelmingly confusing to the enemy-with patterns understood by the U.S. commander. Army XXI operations will be designed to control-maintain or accelerate as necessary-the pace of battlefield events. Commanding under these conditions will require commanders who can assimilate thousands of bits of information to visualize the battlefield, assess the situation and direct the military action to achieve victory. Increased automation may allow reductions in manpower, yet will enable increased control in routine staff functions. Automation reduces the manpower required for routine tasks, allowing more effective use of constrained manpower resources. Manpower reductions allowed by increased automation can be applied in other areas. Automated systems will provide speed, precision and integration in execution and minimize friendly casualties by reducing soldier exposure to the enemy.

c. Land forces are uniquely capable of control of populations and land areas. They bring staying power to a conflict and an unmistakable expression of commitment of intent. Control is the end state. It is the objective of an operation and will often dictate tempo. More hazardous than missions of humanitarian assistance will be operations which may resemble elements of combat operations, including unconventional operations, peace enforcement and conflict containment. SASO will likely require control of an area or population to accomplish their purposes.

d. Most early 21st century operations will be joint and multinational. The connection between the strategic, operational and tactical levels of war will be more continuous because of full-dimensional operations throughout the width, depth and height of the theater of operations. Throughout the full range of operations, American joint forces will induce massive shock on the enemy by attacking his cohesion and moral will to continue the conflict. The effects of joint and combined operations will be directed toward precision attack of critical information management nodes, key strategic assets and enemy fighting formations.

3–4. Army XXI Implications

The implications of moving from concept to reality to describe how Army XXI will operate on future battlefields are primarily related to the anticipated effects of transitioning from threat-based to capabilities-based to knowledge-based operations. These implications are grouped in six categories in TRADOC Pam 525–5: doctrine; training; leader development; organization; materiel; and soldiers. It is suggested that the reader review that source for a full elaboration of future implications. An abbreviated listing of Army XXI implications that may have particular application to the redesign of the Institutional Force is presented below as a summary of this chapter:

a. Doctrine.

(1) Simulations and experiments addressing combat, CS and CSS units will help doctrinally focused front-end analysis for materiel development and force design.

(2) Electronic staffing between TRADOC, combat training centers (CTCs) and MACOMs will form an internetted doctrine development system.

(3) Electro-magnetic spectrum supremacy must be established.

(4) Future doctrine will be changed to accommodate entirely new systems and organizations.

(5) Environmental concerns and impacts on force projection will be incorporated into Army doctrine.

b. Training.

(1) Technological advances for training in full dimensional operations will allow realignment of institutional, unit and self-development training.

(2) Training will remain a continuous aspect of professional development, supported by distributed training support using technological innovations in simulation and communications.

(3) Decentralized training, exploiting electronic media and networking, will permit training at home station/armory/reserve center and minimize operating tempo (OPTEMPO) and training time lost to travel.

(4) There may be environmental constraints placed on large scale exercises, and environmental concerns will increase costs. Prior planning can and will facilitate those exercises, if required.

(5) Mobilization training will be modified according to realignment of institutional/unit training mix.

(6) A smaller force may have fewer individual specialties, but joint training will start earlier.

(7) Individual training programs will produce an Army of wide spread, if not total, computer literacy.

(8) More integration of Active Component (AC) and Reserve Component (RC) training will be required.

(9) There may be fewer training installations. Those remaining will be internetted, and will require conservation of natural resources to sustain those lands for continued training.

(10) Interconnected virtual, live and constructive simulations will be required for unit training through geographically dispersed units on distributed, interactive simulation (DIS).

(11) Risk management will be integrated into training programs as part of force protection.

(12) Field training at CTCs will be essential for battalion/task force and higher units.

(13) Unit training will continue to be required to retain perishable team skills required to function on the digitized battlefield.

(14) Staff training will be enhanced through the use of advanced simulation techniques.

(15) A training strategy must be devised to accommodate increased demands for Department of Defense (DoD) civilians and contractors, to include civilian play in exercises and simulations.

(16) Individual training programs will include training on civilian personnel management at appropriate levels in career development.

c. Leader Development.

(1) Leader development processes will focus on bridging the gap between industrial and information age capabilities and needs.

(2) Leaders must have the ability to integrate rather than concentrate on narrow functional areas-functions and processes rather than branch orientation or occupational specialty.

(3) There will be an accelerated need to exercise greater judgment at lower levels.

(4) There will be higher leader-to-led ratios in units.

(5) Leaders will have a broader understanding of war and the art of command.

(6) Leaders will have the ability to exploit the potential of flatter

organizations, internetted Command and Control (C2) systems, higher quality soldiers and more technically focused civilians.

(7) Tactical leaders will be developed, capable and prepared to make decisions with strategic consequences.

(8) There will be a need for greater versatility, initiative, risk taking and exploitation of opportunity.

(9) Leader development training opportunities will be expanded and augmented for active and reserve components and civilian leaders through creative assignments/cross-assignment initiatives, distance learning, DIS and other innovative information age training technologies.

(10) Leader development training will be conducted under conditions that approximate projected actual engagements-virtual reality.

(11) Risk management process will be integrated into leader development as part of force protection.

(12) There will be more institutional training of Department of the Army (DA) civilians to prepare them for their expanded role in technology and battlefield leadership responsibilities.

(13) Leaders at all levels will receive computer training to develop minimally the rudiments of computer systems to be able to take full advantage of the information age technology.

(14) Leaders will be better stewards and managers of scarce resources: dollars; people; and equipment.

(15) Leaders will become even more safety, health and environmentally aware in order to maintain healthy troops, conserve manpower, natural resources and dollars and prevent adverse public reaction to Army initiatives.

d. Organization.

(1) In an era of unknown conditions, structure for flexibility against a wider range of requirements.

(2) Organize around division as the major tactical formation, but tailor as needed.

(3) Organize around information processing and dissemination.

(4) CS/CSS to be modular and task organized for mission.

(5) Examine relevancy of branches and corps.

(6) Organize to allow transition from war to SASO.

(7) Establish smaller staffs, highly mobile command posts (CPs) and leverage technology to perform more functions.

(8) Organizations will optimize sensor-shooter and direct/indirect fire mixes.

(9) Maximize technologies and civilian/contracting to perform functions at remote stationary locations.

(10) Home station capabilities of, at once, reducing the requirement to deploy units while enhancing the deployability of units/manpower that must be deployed.

(11) Augmentation by civilians/contractors.

(12) Facilitate split-based operations.

(13) Increase use of directed energy and electronic warfare.

e. Materiel.

(1) Split-based operations, improved battlefield distribution, total asset visibility, containerization, automation, reliable communications, all will contribute to more efficient sustainment.

(2) Greater reliance on space-based intelligence and communication systems.

(3) Artificial intelligence to improve battlefield management-implications for intelligence analysis, data support, autonomous vehicles, prognostics, medical diagnosis, training, inventory control.

(4) Industrial base adjusts balance between unique strategic technologies/production processes essential to Army XXI.

(5) Although equipment densities may increase, there will be approximately the same number of line item numbers (LINs) and national stock numbers (NSNs).

(6) Greater degree of computer system standardization to maximize the potential available from interconnected systems and from standardized computer training across the Army.

(7) The acquisition, storage and distribution of hazardous materials leads to increased responsibility (protection of personnel, containment, spill cleanup, etc.).

(8) System integration, both horizontal and vertical, to minimize redundant requirements and insure synchronization of technology insertions.

f. People-Soldiers and Civilians.

(1) Greater training on essential tasks in initial entry training (IET) to be more ready for deployment upon arrival in units, especially in the use of automation and communications.

(2) Greater demand for second language fluency.

(3) More flexibility and discipline needed if soldiers of all ranks must shift from combat mission to humanitarian assistance in the same operation.

(4) Greater emphasis on computer literacy at every level.

(5) Increased use of simulation in initial and advanced individual training as well as unit training.

(6) Increased training on environmental, safety and health concerns.

Chapter 4
Redesigning The Institutional Force

This chapter first looks at the Institutional Force in retrospect, reviews some relevant background in recent history of the institution and concludes how we arrived at where we are today. Next the question of whether fundamental reform will be necessary in the Institutional Force to support the Operational Force of the 21st century is examined. That is followed by a discussion of the core competencies and capabilities of the Army and a redefinition of the core processes that must be performed by the Institutional Force to support Army XXI operations. Finally a synthesis of some of the implications of Army XXI is suggested to identify three major organizing principles. A vision of the functional structural transition to the Army XXI Institutional Force is described.

4–1. The Institutional Force in Retrospect

a. The Institutional Force is, today's lexicon, that part of the Army organized under TDA. It is not a new concept. While at its inception the Army was composed largely of militiamen who served our fledgling nation in providing for the common defense in lieu of a large standing army, the Constitution granted to Congress the power to raise and support armies, to provide for organizing, arming and disciplining the militia and to provide for "calling forth the militia" to execute the laws of the union, suppress insurrections and repel invasions. This approach permitted a system of shared responsibilities between the various states and the federal government with the Army comprised of a relatively small standing force and a larger militia that would have a dual role of domestic support in peace time and available to reinforce the standing force in defense of our Nation in time of war or national emergency. Major General Friedrich W. A. von Steuben, the first Inspector-General to the Armies of the U.S. and also the first drill-master general, may well have been the equivalent of the first Training and Doctrine Command commander. "From the outset Steuben devised an American body of tactics. He taught a greatly simplified manual of arms, because there was no time to follow elaborate European practices. He also disapproved of the British-inspired distance between the soldiers and American officers, who had been wont to leave instruction to sergeants. Steuben not only offered a good example, but specifically instructed officers in how to train their own men"[1] The Army has routinely, institutionally produced its own officer corps and in 1802 established the nation's first college of engineering, the United States Military Academy (USMA) to produce officers not only suited to prosecute land combat but also to conduct operations other than war (OOTW) like geodetic surveys of our vast western land masses. The Civil War saw the War Department involving itself with recruiting through conscription on a monumental scale, and a no less massive procurement initiative, interacting with private industry in procuring uniforms, boots, horses and wagons and developing systems such as the Springfield rifle and every manner

[1] Clary, David A. and Whitehorne, Joseph W.A., The Inspector General of the United States Army, 1777–1903, (Washington, D.C.: Center of Military History, 1987).

of cannon. As time passed these type enterprises-planning, budgeting, research and development, recruiting, procurement, training and eventually doctrine, that is, how to fight-became more and more core to the Army. Before the 1903 War Department reorganization established the first real general staff, the War Department headquarters was comprised of a group of autonomous bureaus. Each reported directly to the Secretary for the management of a specialized function or service. After 1903, the Army gradually divested control of specialized functions from the bureaus to the "line" (the Army in the field), leaving the "staff" in the War Department to concentrate on the traditional staff functions of planning and coordination. The non-deployable organizations transferred to the field are the antecedent to today's institutional Army.

b. During the early years of the twentieth century, although no line units above the regimental level were authorized except during wartime, the Army staff began planning for higher-level organizations in the event of war. Tables of organization were included in Field Service Regulations, published in 1905, for both line regiments and for echelons above the regimental level, that is, divisions, corps and field armies. Units above the regimental level continued to be manned provisionally. Tables of organization, similar to those in use today were first published in 1914.

c. Tables of organization and tables of allowances (equipment) were published separately until 1943, when they were consolidated as TOEs. Tables of allowances were also published for installations, schools, departments, and so forth, and in 1936 the term "table of distribution" was adopted for the document that authorized personnel for each unit. In 1943 the tables of distribution and tables of allowances were consolidated into tables of distribution and allowances (TDAs).

d. In 1905 34% of officers in the regular Army were assigned or detailed to organizations other than line units. The number rose to 45% by 1911 and to approximately 50% by 1921. Throughout the 1930s the number of officers in TDA-type units remained at about 60% of the authorized officer strength. With the mobilization of forces in 1940-41, this percentage dropped to about 45%. In June 1989, as the Army began its current reduction, the active component had 55% of its authorized officer strength, 24% of its authorized warrant officer strength, 22% of its authorized enlisted strength and almost 100% of its authorized civilian strength in TDA units [2]

e. This historical division of labor between the line (operating) and staff (institution) is hardly surprising. If there were no Army in the field there would remain a requirement to be prepared to perform the Army's statutory obligation to conduct "prompt and sustained combat incident to operations on land." As recently as 1973, shortly after the Vietnam conflict, the Army saw fit to acknowledge the respective, unique contributions of each in reorganizing the Continental U.S. Army Command (CONARC) into the Training and Doctrine Command (TRADOC/Institutional) and the Forces Command (FORSCOM/Operational). As will be discussed later, this division is illustrative of the Army's ability to satisfy its core competency-soldiers, and those who support them, capable of prompt and sustained operations on land. FORSCOM with its counterpart deployed commands (U.S. Army Europe (USAREUR), U.S. Army Pacific (USARPAC), U.S. Army South (USARSOUTH), etc., represents that element of the Army that must be competent to achieve decisive victory as the land component of the combatant commander's joint/multinational force, a component of the Army's core competency. TRADOC and the Army Material Command (AMC), among others, provide the complementary competence to organize, train, equip, provide and sustain the land component of the combatant commander's joint/multinational force.

f. During the forty year cold war, this division was codified with an Operational Force largely deployed and an institution focused largely on sustaining that deployed force. This was done while continuously seeking the most efficient, effective mix of organizational designs, modern equipment, challenging training programs, effective warfighting doctrine, quality people and competent leaders. As discussed in Chapter 1, while the Operational Force reflects considerable flexibility, particularly in terms of spending trends as the size of the Army fluctuates, the institution has proved far less malleable.

g. In recent years as the Army has downsized following the end of the cold war and success in the Gulf war, the institution has remained relatively the same size. The Defense Manpower Requirements Report (DMRR) shed some interesting light on the relativity of the institution and Operational Force since the demise of the Soviet Union. If two of the Defense Planning and Programming Categories (DPPC), "Strategic" and "Tactical/Mobility," represent operational forces and all other active military end strength comprises the institution, the relative investment of active manpower in the Operational Force, by service, since the peak cold war force structure (1988) is:

	1988	1996	% Growth
Army	62	67	+5
Navy	55	65	+10
Marine Corps	62	70	+8
Air Force	38	57	+19

Source: Defense Manpower Requirements Report, August 1988/1996.

Figure 4-1. % Active Military End Strength in the Operational Force

Other than the Marine Corps, which is provided much of its institutional support by the Navy, the Army continues to have more of its active force invested in performance of its operational core competency than any other service. But, as we approach the 21stentury can we expect the institution to remain relatively insensitive to emerging conditions-new power projection strategy, information age technology and the Army XXI Operational Force?

4–2. Doctrinal Reform of the Institutional Force

a. The doctrine of force projection is a fundamental principle for U.S. military operations in the 21st century. The U.S. cannot afford indefinite forward stationing, nor will geopolitical considerations always allow it. This new expeditionary Army has become much smaller and, absent the emergence of a clearly recognizable strategic threat, it is likely to remain so. Nonetheless, the Army will be expected to fulfill its mission, to win the nation's wars quickly and with minimum casualties, and to successfully perform other military operations short of war. To do that, its fighting elements must be manned, trained and equipped for employment in a wide range of operations. Readiness must be high. The force must be led by officers who have the ability to function effectively in information age operations-the ability to integrate, to think in terms of processes and capabilities rather than narrow branch functions. Recruiting and pre-commissioning requirements are central to obtaining officers who have the ability to function effectively. Pre-commissioning of future officers must continue to include the identification and development of highly qualified and skilled individuals. The Army must be both tailorable and expansible; tailorable so that modules may be rapidly assembled into adaptable and effective organizations, suited to unanticipated missions; expansible, because of the increasingly important role of the Army National Guard (ARNG) and the Army Reserve (AR) in Army XXI operations. Army XXI will have to be strategically mobile, lethal and survivable when it is committed to battle. All of these factors must be brought to bear in joint and probably multinational operations. This will require full connectivity and responsiveness of theater army components to provide both operational direction to subordinate tactical forces and to get the full benefit of a power projection sustaining base. The Institutional Force has always served as the power projection sustaining base. Recent efforts to more sharply focus its capabilities toward that role must be continued. Linkages of the institution to the Operational Force will become essentially seamless, interneted with the same automated systems, software and procedures, supported by modernized, high band width communications capabilities and forged by a common doctrine for both types of structure.

b. Since the end of the Vietnam War the Army's warfighting doctrine has undergone three significant revisions in 1976, 1982 and 1993. The 1982 revision, updated in 1986, introduced Airland Battle and resulted in substantial force design and force structure changes. This evolution took place within a stable active military end strength and increasing defense budgets, and produced a powerful industrial age fighting force. The 1993 doctrinal revision began the Army's transition to the information age and recognized the primacy of force projection and the reality of SASO. It arrived at a time of sharply curtailed end strength-active, National Guard, Reserve, and civilian-and diminished defense budgets. TRADOC PAM 525–5 heralds a new set of conditions that matches information age technology with doctrinal innovation to produce a revolution in military affairs in the 21st century. The military innovators of today do not know exactly what form of tactics, organizations and equipment will evolve from their ideas, but it is clear that a fundamental reform of the Operational Force is under way. In contrast, during the period of doctrinal evolution over the past 20 years the Institutional Force has changed very little. Until 1989, personnel strengths were generally stable, more major commands and FOAs were created and internal adjustments were made, primarily to accommodate the many force modernization and training programs of the 1980's. The relative insensitivity of the institution to external dynamics is beginning to wane. A significant change at Department of the Army level was driven by the Goldwater-Nichols Act of 1986 which reordered several functions under the service secretaries. Also, since the restructuring of defense activities began in the early 1990's, the Army and the other military services have taken initiatives to downsize their structures and reengineer processes. The institution, normally able to take change in stride while the operational force evolves is now subject to fundamental reform itself.

c. As depicted graphically in Figure 4–2, Army operations in both war and SASO require the participation of both the Operational and Institutional Forces. Operational Force units are required for all levels of war-strategic, operational and tactical. In determining force structure, requirements within the theater of operations were traditionally calculated as Operational Force MTOE units.

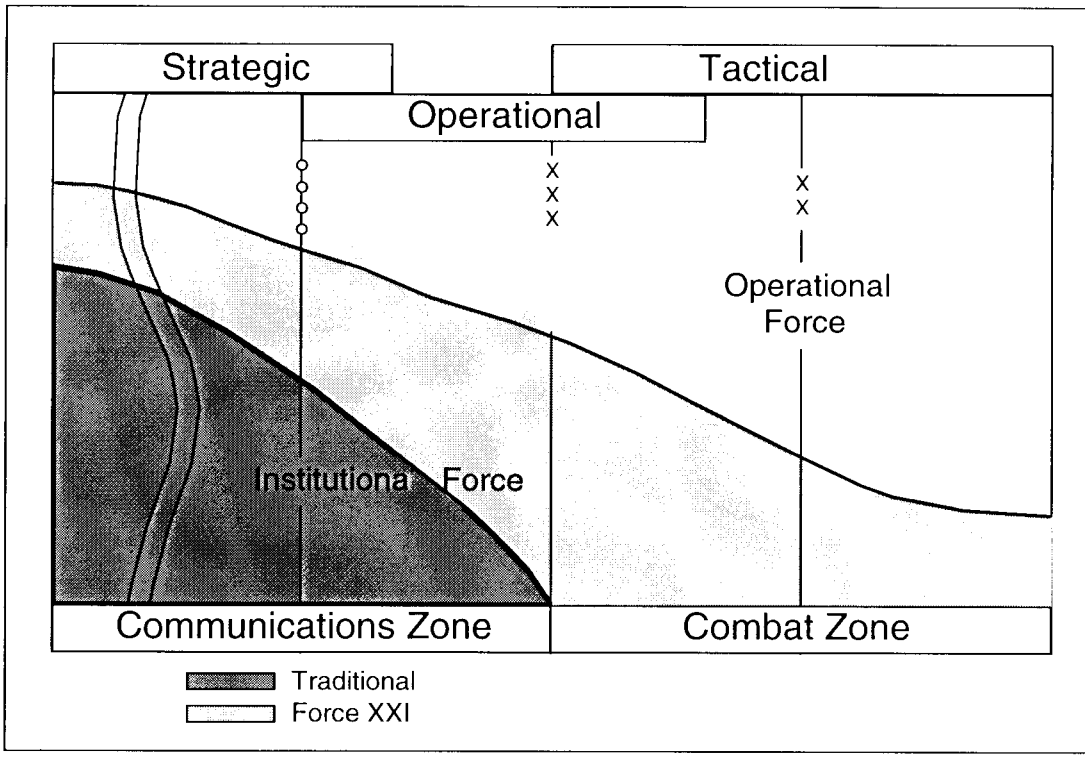

Figure 4-2. Institutional and Operational Roles Blend into the 21st Century

This system applied to both combat and support units, the latter being partially offset by host nation or contract support. The Institutional Force was mainly confined to general support operations within the communications zone, primarily in CONUS. In operation DESERT STORM, elements of the Institutional Force took a more active role in theater operations. Both military and civilian members of TDA organizations, as well as civilian contractors performed operational support missions for tactical units. As the U.S. continues to exploit elements of its national power, that is, its culture, economic base, technology and military forces into the 21stcentury, the ability of the Institutional Force to perform more of the tactical support functions will increase. In areas such as intelligence, communications, transportation, logistics, medical and engineering, Institutional Force support will extend into the combat zone. This extension of effort will take two forms: first, there will be direct personal involvement by institutional organizations and individuals into regions within the battlespace where support to tactical elements is required. Second, and often concurrently, institutional and operational information systems will be linked to support tactical operations. An example is split-based operations wherein the processing of information can be done in CONUS and selectively accessed by operational and tactical level users. As Army XXI continues to develop, the distinction between Institutional and Operational Forces will continue to diminish and the roles in supporting combat forces will continue to blend, allowing more flexibility in the operational employment of institutional capabilities. Moreover, the emerging potential for the expanded role of the Institutional Force, including DA civilians and the private sector, in operational missions must be carefully weighed in terms of the roles and missions of the Operating Force, the unique strengths and capabilities of both the active and reserve components, cost effectiveness and battlefield survivability. It will therefore be necessary to clearly identify, describe and rationalize the linkages and to revise doctrine to reflect the convergence of support processes. The Total Army Analysis process, for example, must be adjusted to accommodate these new realities. This will form the basis for designing a rational Army model that will define the relationship of the core capabilities and processes of the Institutional and Operational Forces. If the coincidence of information age technological revolution and ever diminishing resources is the future, the Institutional Force and the Operational Force are in similar situations. The world has changed and there is great risk in standing still. The Operational Force has begun to develop a future vision, to form the concepts, to experiment and to grow into the vision. The Institutional Force must do the same. Fundamental reform is in order.

4–3. Core Competencies, Capabilities and Processes

The Charter for Redesigning the Institutional Force sets forth the terms under which this effort will be conducted and the principles on which it will stand. Among these is the principle that "The Army's core competencies will serve as the foundation of the Institutional/TDA Army" and that "included (in the umbrella redesign) will be the development of a fully coordinated statement of the institutional core competency and core capabilities necessary to establish the Institution's contribution to Army XXI, as well as a documented doctrinal basis for the Institution." In developing the

[2] Wilson, John B., Information Paper, Subject. History of Tables of Distribution and Allowances (TDA), 30 May 1995, DAMH-FPO.

redesign parameters for the Institutional Force, it is therefore necessary to establish and agree on the institutional core competency and core capabilities, and to define the resultant core processes by which the functions of the institution will be performed.

a. Conducting military operations is the reason for the Army's existence. And core to the Army is its people; hence the Army's core competency-Soldiers, and those who support them, capable of prompt and sustained operations on land. This includes the arrival of mission capable organizations in a theater of operations, together with necessary logistics, command and control and sustainment resources for employment in joint or combined operations, which may range from maintaining peace through prosecution of war under direction of the unified combatant commander. These mission capable organizations are normally organized under Modified Tables of Organization and Equipment (MTOE). As outlined in Chapter 1, the international purposes of American military power are to compel, deter, reassure and support. These are the Operational Force's core capabilities.

(1) *Operational Force.* In defining the Army XXI Operational Force TRADOC Pam 525–5 describes its characteristics, battle dynamics and capabilities. It is now unclear how these future characteristics, dynamics and capabilities will directly or indirectly affect the competencies and processes (and functions) or the Institutional Force. The answers will come in time as Army XXI operations are subjected to experimentation and the nature of warfare in the information age becomes better understood. Notwithstanding these uncertainties, there are indicators of future conditions and requirements as described in the implications of moving from concept to reality in Army XXI operations. Most likely the consequences of the evolving Force XXI Operational Force and the institution will be to more closely align the mutual contributions of each, particularly at the operational level of war, as to make them one, responsive to doctrine.

(2) *Institutional Force.* Preparing for military operations includes designing, structuring, developing, recruiting for, equipping, resourcing and sustaining doctrinally-based organizations capable of meeting operational requirements. It also encompasses preparing fielded organizations, including individual training and support of unit training, leader development and preparation for joint operations, and mobilizing reserve units to deployment sites-functions core to the Institutional Force. That is the Institutional Force's core competency: create, provide and sustain the land component of the combatant commander's joint/multinational force. The Institutional Force has traditionally been organized under TDA and has been located both in the CONUS sustaining base and overseas, mainly at theater army level. As will be discussed in the following paragraphs, the Institutional Force has four core capabilities: develop the force; generate and project the force; sustain the force; and direct and resource the force. Central to those four capabilities is the force; that is, the Army's people-soldiers, civilians, families and retirees. Central to everything the Institutional Force does is the Army's people. Organizations are designed to maximize the role of the soldier; technology is leveraged to provide those people the very best, most modern equipment; the education system is developed to continuously enhance the soldiers' capabilities; the Army's leader development program is focused on the very goal of providing the Army's people the very best leadership possible; and the training program is charged to produce the most capable mix of soldier, equipment and doctrine to satisfy the Army's core competence-soldiers, and those who support them, capable of prompt and sustained operations on land. All Institutional Force core capabilities, and related core processes, have the same central theme-create, provide and sustain a force comprised of the Army's people.

b. It is useful to view the institutional core competency in terms of the four core capabilities required to support the future battlefield of Army XXI as outlined below:

(1) *Develop the Force.* This core capability encompasses the various functions that must be accomplished to create tactical units that comprise the Operational Force. Together they are driven by all five of the Army XXI battle dynamics. The processes comprising this capability begin with the development of doctrine-the basis for personnel and materiel requirements. Organizing in the force development sense includes the design of units and their aggregation into the Army's force structure. Acquisition and training of personnel and integration of personnel and modern equipment into units is also a part of this capability. The Army XXI battle command dynamic drives two important aspects of developing the force of the 21st century. First the ability to rapidly move and process information will change command procedures. This will greatly influence force organization and staff systems. Secondly, future leader development will have to exploit the opportunities of entirely new command technology and to function effectively with greater complexity of operations. In the 21st century, the Institutional Force will not only be responsible for developing the Operational Force, but will employ the same organizing and preparing tenets in the design and fielding of institutional units.

(2) *Generate and Project the Force.* In a strategic environment where the threat is uncertain, missions are difficult to foresee and American military power will increasingly be concentrated at home, the ability to rapidly deploy ready forces into a distant area of operations and to keep them coming as dictated by the tempo of battle is recognized as the overriding capability by which the Army will be measured. This is the provide part of the institutional core competency that is driven by the early entry battle dynamic and is the operative capability that the others will support. This is defined as force generation and projection. Implicit in force generation is organizing and maintaining appropriate readiness levels in active and reserve component units, consistent with the authorities and responsibilities of each component, planning for and conducting mobilization, deploying units in the correct numbers and re-deploying and demobilizing them upon termination of operations. Modularity and tailorability in developing doctrinally balanced force packages and sequence of deployment into a theater of operations must be ensured. Force generation and projection involves both the sending and receiving Army commands. Force projection includes planning and procurement of strategic lift and common-user terminals.

(3) *Sustain the Force.* Sustainment, another part of the institutional core competency, is also a core capability which directly supports the generation, projection and employment of forces. The Institutional Force must be capable of providing the consumables that enable military operations and the materiel, replacement units, personnel and equipment to replace losses. Force sustainment begins in the CONUS sustaining base or in forward bases, extends through the Army component command and ultimately to the using units. It is primarily driven by the combat service support battle dynamic. The Institutional Force has knowledge-based resources not available to the Operational Force that may be adapted to operational use. These may include private industry capabilities, use of commercial equipment and provision of applied research and development (R&D) to solve operational problems.

(4) *Direct and Resource the Force.* Broadly defined, the above core capabilities are the interdependent engines of land power by which the Institutional Force will support the combatant commanders in conducting military operations on land. To be effective, however, there must be central direction and coordination. Resources must be obtained, prioritized and allocated. A fourth institutional core capability-Direct and Resource the Force-encompasses those statutory responsibilities of the Secretary of the Army to effectively implement the policy, program and budget decisions of the President and Secretary of Defense. Direct and Resource the Force is a core capability for which Headquarters, Department of the Army (HQDA) is responsible.

c. Having established the four core capabilities the Institutional Force must posses to fulfill its core competency, the core processes needed to translate capability into product must be defined. The core processes derive from Title 10 U.S.C. which directs how the DA will be organized and assigns the following responsibilities and functions to be performed:

Recruiting
Organizing
Supplying
Equipping (including research & development)
Training
Servicing
Mobilizing
Demobilizing
Administering
Maintaining
Construction (outfitting and repair of equipment)
Construction (maintenance and repair of buildings, structures and utilities, and acquisition of real property).

d. These basic institutional functions are modified by the six imperatives that are the foundation for a trained and ready Army in a changing world:

(1) Quality people, trained, motivated and challenged.

(2) Competent leaders, clear in their vision of the future, with fully developed combat skills.

(3) Modern Equipment, providing soldiers with the greatest possible lethality and best technology.

(4) Challenging training, focused on realistic scenarios and oriented toward joint, combined and coalition operations and contingency missions.

(5) Force mix, comprised of active and reserve forces and, conceivably, institutional forces including Army civilians and contractors, that preserve essential warfighting capabilities in rapidly deployable units.

(6) Effective doctrine, accommodating joint, combined and coalition maneuver-oriented, high tempo and high technology warfare.

The 12 institutional core processes are synthesized by focusing the Title 10 responsibilities and functions through the lens of the six imperatives as depicted in Figure 4–3 below.

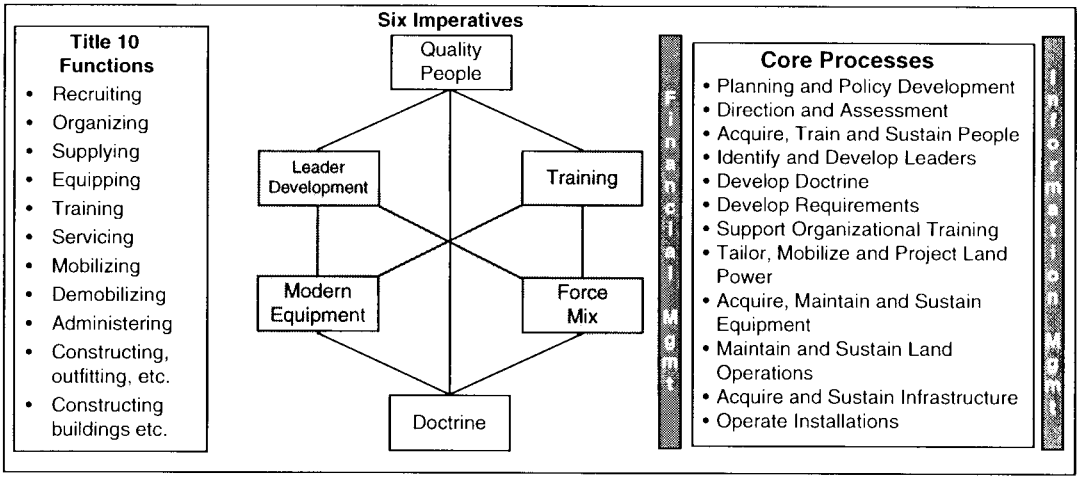

Figure 4-3. Synthesis of the Institutional Core Processes

In addition, there are two cross-functional core processes that exceed the limits of the 12 basic core processes. These are financial management and information management. Both have integration across all core processes of the Institutional Force and are the responsibility of HQDA.

The 12 core processes and two cross-functional processes are the means by which the Institutional Force core capabilities are actuated to produce a trained and ready Army. Each of the processes is primarily associated with the capabilities as shown in Figure 4–4. The synergy of the capabilities and processes performed by HQDA and the several institutional commands and agencies, empowers the Institutional Force's core competency: to create, provide and sustain the land component of the combatant commander's joint/multinational force.

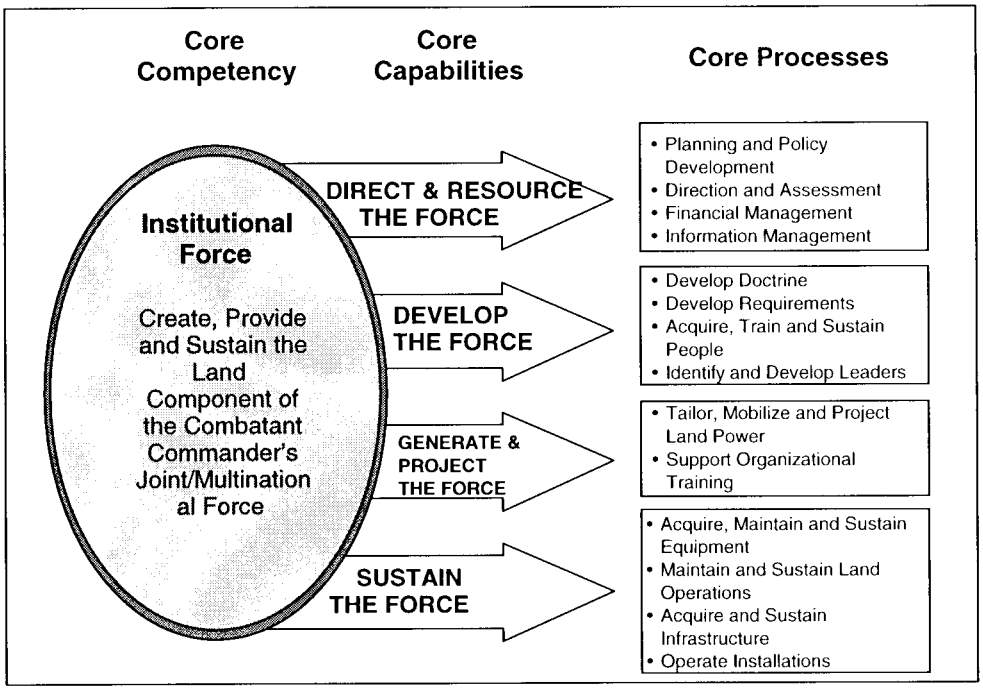

Figure 4-4. Core Competency, Capabilities and Processes of the Institutional Force

4–4. Organizing Principles

Previous chapters discussed possible consequences of military operations in the world of the early 21st century-the expectation that the U.S. will continue its role in defending and promoting national security interests throughout the world, but with a national defense establishment much reduced in size and resources. Also discussed was the anticipated role of the Army in Army XXI operations and the possible implications that a doctrine of knowledge-based warfare and power projection may have for the Institutional Force. Before attempting to relate these many implications to the core processes of the Institutional Force, it is useful to identify three major organizing principles that will serve to focus Institutional Force redesign and reengineering efforts.

a. The NMS has firmly established that U.S. armed forces are committed to the doctrine of power projection, with the cold war principle of forward deployment evolving to forward presence. The largest remaining bulwarks of Army forward deployment are of course in Germany, Korea and Panama, with many smaller concentrations dispersed throughout the world. Except for the forces in Panama, current policies continue the level of force deployment in Europe and Korea indefinitely and, in the case of Europe at least are considered forward staging bases for force projection to other trouble spots. However, peacetime force deployments have never been considered a permanent fixture of national policy. As the NSS is one of engagement and enlargement, no one now can say if deployed forces will come home, and whether U.S. ground forces will become essentially CONUS-based in the future. If this happens the concept of power projection as a surrogate presence will effectively displace forward deployment for the Army and probably for the Marine Corps as well. The evolution toward a gradually decreasing forward presence and increasing reliance on power projection would have significant implications for the way in which the Institutional Force may develop, organize, command and deploy its forces. There is no need to wait; preparation for total power projection can begin now. Planning for these concepts can be started immediately and phased in if and when withdrawals occur.

b. Technologically and doctrinally Army XXI requires a dynamic, holistic mentality toward the information age-adaptability, flexibility, modularity, connectivity-all are characteristics of the organization and of the information web that supports and enables it. These factors have been proven in the private sector where the rapid pace of technological innovation outpaces the capability of organizations to capture its full potential, but when effectively harnessed has revolutionized business practices. Twenty-first century media will have even greater expectations and place greater demands upon the Army, its leaders and soldiers. Public affairs must continue to tell the Army's story and enhance the commander's access to the media. Information and the power of knowledge must not be underestimated and will undeniably have a significant impact on military decisions and operations. The Force XXI concept of full-dimensional operations that informs multiple levels of battle commanders of the simultaneous effect of all actions throughout the depth, width, height and time of the battlespace can have a complementary effect if applied to the elements of the Army's infrastructure that must connect with and support the theater forces conducting the operation. Information technology can shorten or eliminate the gap that exists between the theater and the sustaining base.

Just as internetted battle command systems will facilitate horizontal integration of battlefield functions and aid commanders in tailoring

and positioning tactical forces, so information leverage can be applied to TDA organizations and headquarters to enable greater devolution of operational responsibility from higher to lower levels. This will permit more concentration of effort by staffs on the planning and programming processes, with implementation done by major commands, while retaining real-time responsiveness at all levels. In essence, information technology will be largely responsible for the synthesis of the institution and the Operating Force. The devolution of responsibility and flattening of organizations that comes with better horizontal integration of functions will permit fewer subordinate organizations to assume a greater breadth of responsibility with more efficiency. This will enable the elimination or absorption of functions previously performed by external support activities and will permit operating activities to retain mission responsibilities and dispense with common administrative functions. This will require highly responsive transportation organizations, close commercial interface, enhanced infrastructure and dynamic planning.

c. Force development as discussed in paragraph 4–3*b*(1) above includes the development of doctrine, requirements and organizations as well as the integration of trained personnel and modernized equipment into units and the processes by which these things are done. These processes are the responsibility of several different commands and their products will determine how Army XXI is shaped and evaluated. The processes have begun to change and are being examined separately in the various MACOMs and/or staff reengineering FAAs. There have been timely updates to the Army's doctrine in the post-cold war era, and the Battle Lab system is bringing together the doctrine, combat and materiel developers and adding a more functionally driven experimentation process to requirements determination. But there is still progress to be made in relation to the force development system. TRADOC's Requirements Determination Black Book (RDBB), lays out a methodology which generates a synergy and provides more thorough consideration of desired warfighting capabilities and the means to achieve them, all of which will enable Army leaders to make better and faster decisions. Follow on update to requirements determination policy regulations and publications of a procedures guide will further educate the Army on this new way of doing business. The materiel acquisition system, long the target of reformers, has been a seemingly endless and unaffordable obstacle in too many cases. The Army must continue to work on the transition to an acquisition strategy emphasizing use of commercial, off the shelf/ non-developmental items (COTS/NDI) of equipment, particularly for information systems. The force integration process, initially conceived to produce combat ready units in an era of intensive force modernization, must be adapted to the changes driving the development of Army XXI. This will require the ability to quickly define requirements, develop and field COTS/NDI equipment and document that equipment on requirement and authorization documents.

4–5. Redesign and The Institutional Core Processes

a. If one accepts that the three main organizing principles emanating from the implications of Force XXI operations focus on:

(1) The probability that a largely CONUS-based force planning for and executing total power projection operations is the logical end state, and

(2) The leverage to be obtained by information and knowledge-based operations on the force, and

(3) The development processes that must create, provide and sustain such a force must be closely integrated and modulated in an efficient manner, a long range vision for the shaping and functionality of the Institutional Force can be established. This vision is consistent with and supports the principles set forth in the Institutional Force Redesign Charter (Fig 4–5).

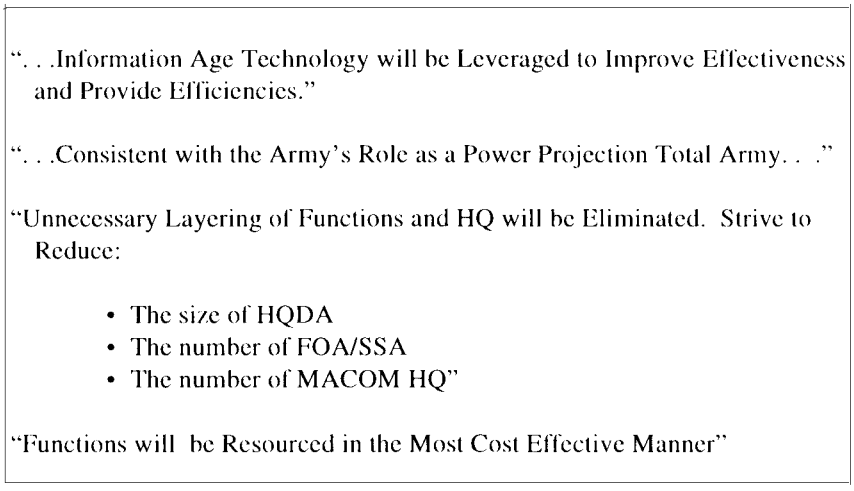

Figure 4-5. Institutional Force Redesign Principles

When considering the organizing principles in relationship to the four core capabilities, a basic functional model can be constructed to provide a framework for reengineering the Institutional Force and redesigning its core processes. The model could consist of HQDA (Direct and Resource) and a minimum of three major multi-process integrating organizations: a force development command; a force generation and projection command: and a force sustainment command as depicted in Figure 4–6.

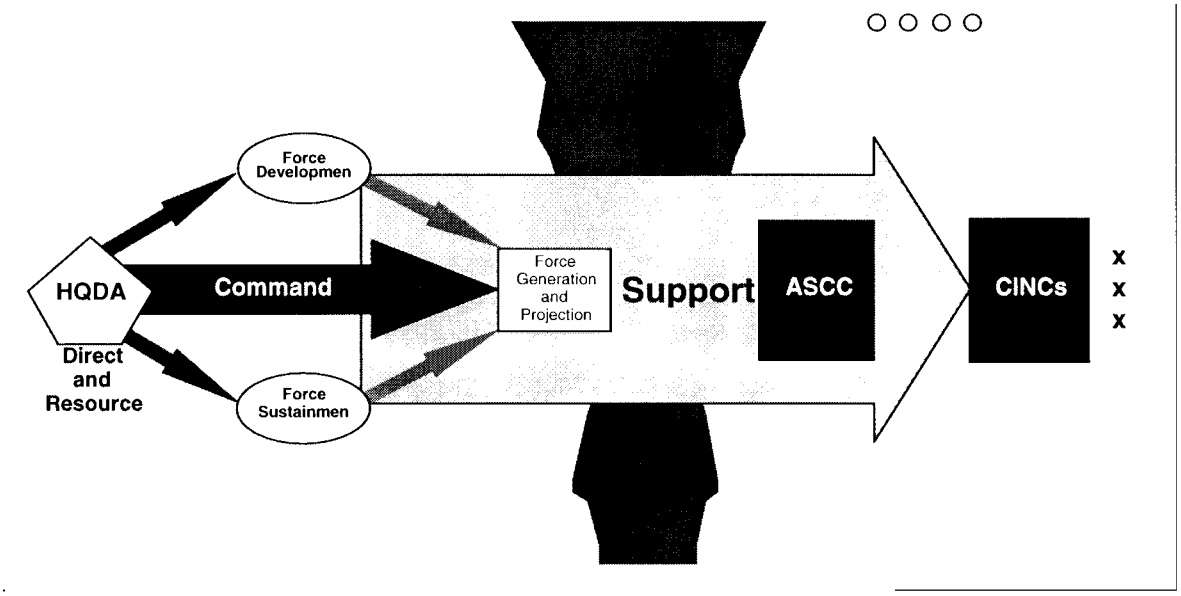

Figure 4-6. Institutional Force Functional Model

In this model, HQDA would direct activities and acquire and allocate resources, through three integrating multi-functional commands and the Army Service Component Command (ASCC), to the combatant commander.

Currently the Institutional Force is comprised of 14 MACOMs and four principal FOAs, as reflected in Figure 4–7.

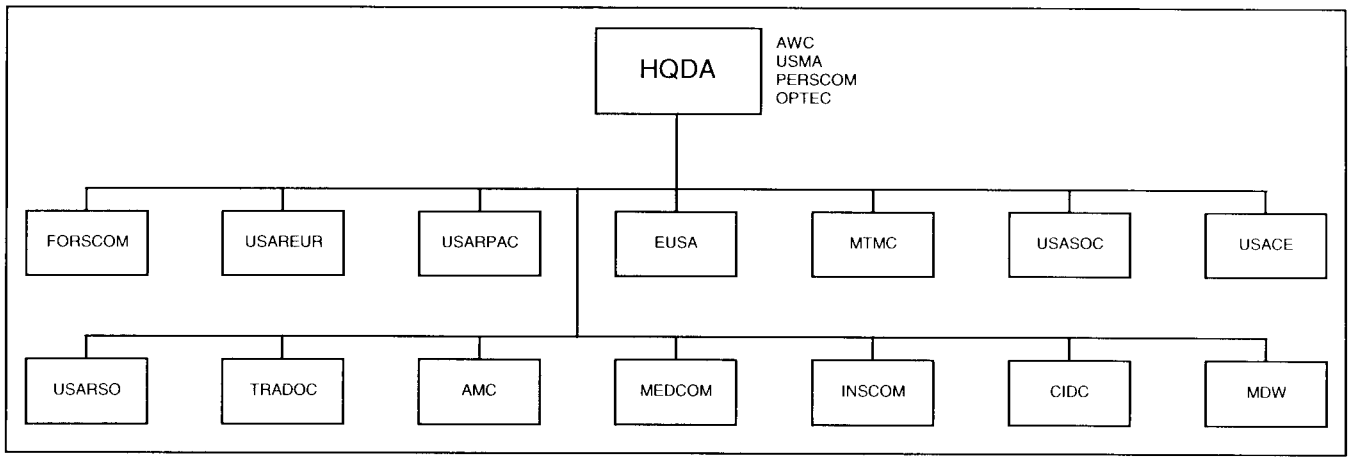

Figure 4-7. Current Institutional Force Structure

b. Working from the functional model to alternative organizations for the Institutional Force, a base case organizational model is depicted in Figure 4–8. This model shows an Institutional Force consisting of three MACOMs and seven ASCC. TRADOC, AMC and FORSCOM become the nucleus headquarters to focus the Force Development Command, Force Sustainment Command and Force Generation and Projection Command respectively. Listed below each MACOM are the relevant core processes and the present MACOMs and large FOAs that perform the functions generally associated with the core capabilities and processes inherent in the model's parent MACOM. The base case model has the advantages of fully meeting the charter guidance of reducing the number of MACOMs and greatly reduces the HQDA span of control. However, it greatly broadens the scope of responsibility of the three MACOM headquarters, particularly TRADOC and AMC. For example, although the Medical Command (MEDCOM) and the Corps of Engineers (COE) both have force sustainment functions, neither is related to the traditional functions of AMC. Also it converts the relatively flat organization presently represented by 14 MACOMs and four large FOAs reporting directly to HQDA, into three highly vertical organizations. This runs counter to current trends in government and industry towards flatter organizations that capitalize on modern information technology to reduce layering and improve responsiveness. The flatness, instead, is manifest in the three MACOMs, empowering them with unprecedented authorities heretofore retained at HQDA. An organization model of this type has historical precedent. In World War II three major commands, Army Ground Forces, Army Air Forces and Army Service Forces manned, trained, equipped, mobilized and deployed all of the Army's land and airpower to win the war. Army Service Forces alone commanded the antecedent organizations and performed the core processes grouped under Force Development Command and Force Sustainment Command. That is not to say that what was made to work 50 years ago in a grave national emergency is a suitable structure for Army XXI, only that the model is not unrealistic as a base case for subsequent institutional reengineering and redesign.

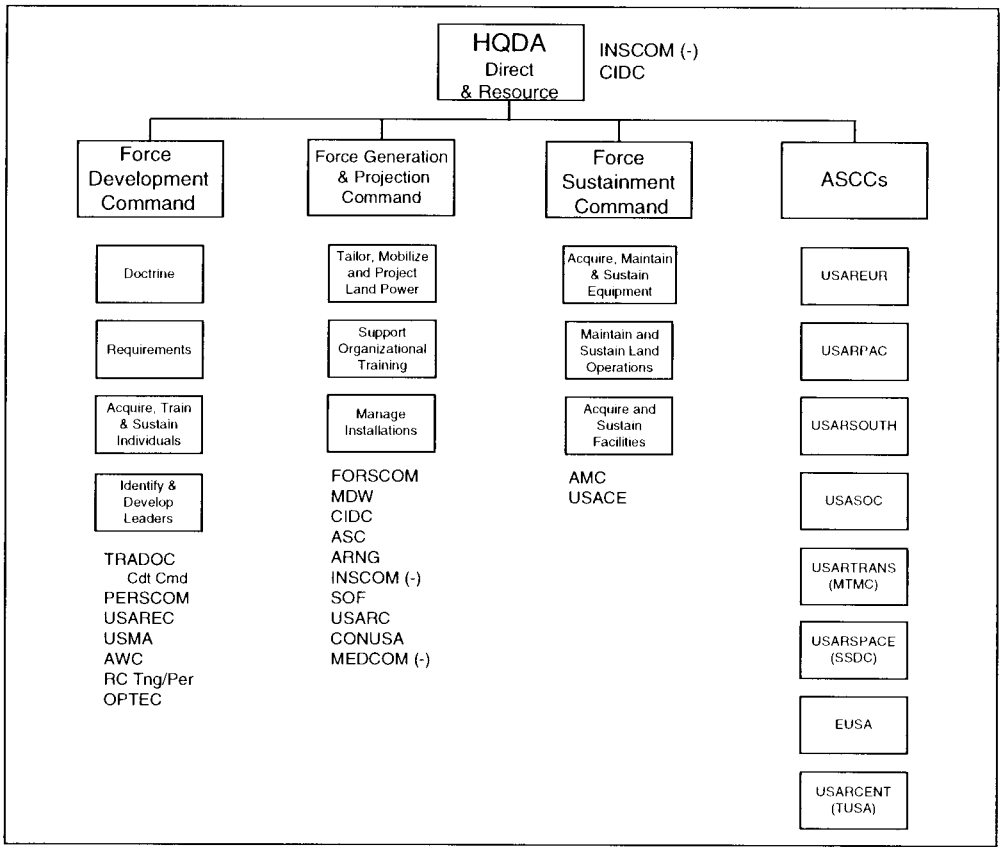

Figure 4-8. Base Case Organizational Model

An alternative model that also adheres to the organizing principles, but provides more functional flexibility is provided in Figure 4–9. Key characteristics of the model are:

(1) Eight MACOMs: remainder of MACOMs and FOAs distributed as indicated.

(2) Personnel Command broken out from Force Development Command to concentrate on the "sustain people" function.

(3) Personnel acquisition, training and leader development concentrated in Force Development Command.

(4) Medical treatment recognized as a highly specialized aspect of the sustain people function-MEDCOM retained as a MACOM under The Surgeon General (TSG).

(5) Force Projection Command separate from Force Generation Command with nucleus of Military Traffic Management Command (MTMC) and FORSCOM (-) responsible for deployment/re-deployment.

(6) Force Generation command with nucleus of FORSCOM focused on readiness, organizational training and mobilization/ demobilization.

(7) Force Sustainment command narrowed in focus.

(8) COE retained as HQDA MACOM due to predominance of Civil Works and Infrastructure functions.

(9) Military District of Washington (MDW) retained as MACOM or FOA in recognition of unique responsibilities supporting the national capital region.

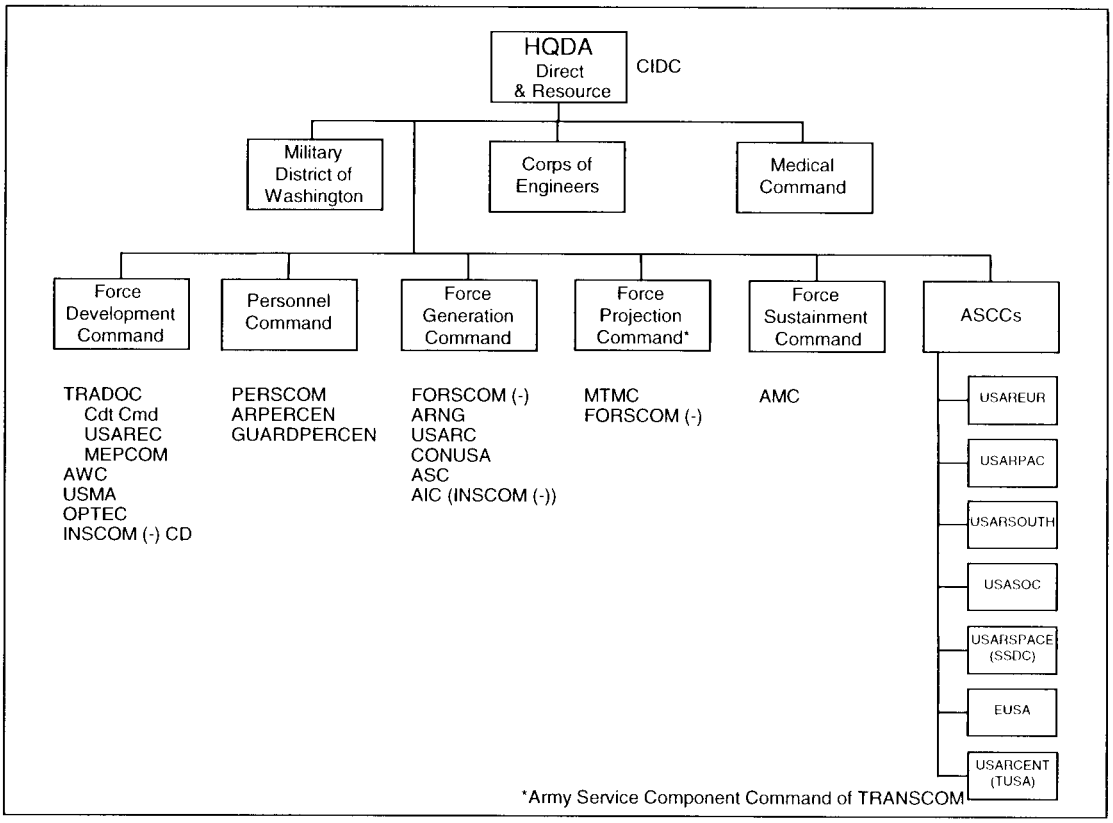

Figure 4-9. Alternative Organizational Model

A third alternative model also adheres to the organizing principles while acknowledging certain enduring unique, special characteristics of the Institutional Force that will continue in Force XXI, and the role of the ASCC as part of the operational vs. institutional structure. This model retains the multifunctional, integrating commands charged with performing the principal institutional core capabilities of developing, generating and projecting and sustaining the force. Moreover, it recognizes certain Army XXI responsibilities as so special that they require the singular management structure of a command, albeit one designed uniquely to perform that special function and directly responsible to HQDA. In this model Intelligence and Security Command (INSCOM) and MEDCOM are subsumed into the Operational Force as major subordinate commands of the Force Generation and Projection Command, each with MTOE brigades designed to be aligned with the two Major Regional Contingency (MRC) ASCCs. Their residual, institutional responsibilities would be performed by newly created SSAs of the Deputy Chief of Staff for Intelligence (DCSINT) and TSG, respectively. The ASCCs also acknowledge a degree of specialization such as U.S. Army Space Command (USARSPACE), U.S. Army Transportation Command (USARTRANS) and U.S. Army Special Operations Command (USASOC). The others reflect the continued requirement for as many as five ASCCs while the Army maintains its forward deployed posture. In Army XXI these ASCCs could also be subsumed into the Operational Force, but would remain directly responsive to HQDA. They could be organized under MTOE to reflect the somewhat standard nature of their responsibilities as the Army components of the combatant Commander's in Chiefs (CINCs), but augmented with institutional structure to perform such institutional core processes as "Operate Installations" or "Support Organizational Training" in forward locations.

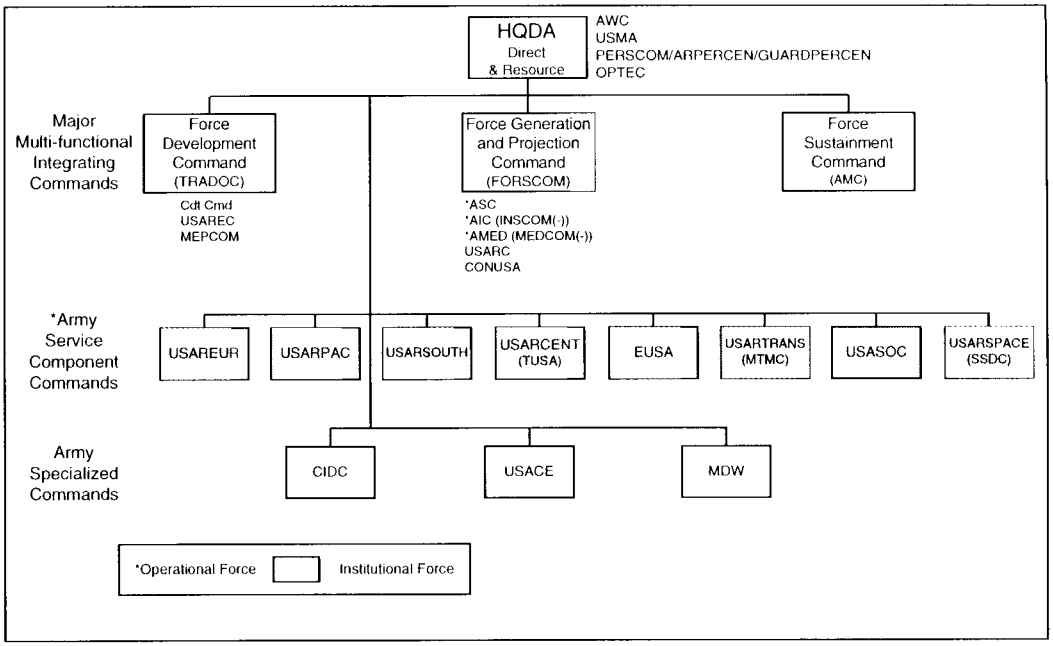

Figure 4-10. Major, Service Component and Specialized Commands

The preceding organizational models are not intended to be prescriptive templates for redesign of the Institutional Force. Rather, they are offered as sample organizational derivations, based on institutional core capabilities and the functional linkages between and among the associated core processes. The discussion of core capabilities in subsequent chapters is functionally consistent with the organizational models and with the charter principles, thus providing the Umbrella TDA Redesign proponent a point of departure for development of Institutional Force alternative organizations.

4–6. Summary

Changes in the world situation, the lack of a single definable threat to the U.S. national security and the transition from industrial-age to information-age technology are driving major changes in the way the Operational Force will fight under conditions of war and in the way military forces will conduct themselves in SASO. At the same time, cutbacks in defense resources are forcing the U.S. to downsize all of its military establishment. Tactical doctrine is undergoing substantial revision and experimentation to keep ahead of the changing conditions. Although the Institutional Force should be expected to adapt to change, the magnitude of change as the Army enters the 21st century is such that a doctrinal reform of both the Operational and Institutional Forces is in order. Reform will start by considering the role of the Army, defining its core competencies and capabilities and assessing the core processes that comprise these capabilities. The Institutional Force core processes embody the Title 10 functions that the Department of the Army is mandated to discharge. By considering those core processes in the context of Army XXI operations, it is possible to define organizing principles to help shape a future vision of how the Institutional Force may be organized and operated in support of operational Army forces provided to the unified combatant commanders. The objective is to establish a conceptual baseline for subsequent redesign of the Institutional Force.

Chapter 5
Direct and Resource the Force

The core capability of "Direct and Resource the Force" comprises four core processes:

Planning and Policy Development
Direction and Assessment
Financial Management
Information Management

Together these processes support the statutory responsibilities of both the Secretary of the Army and the Chief of Staff. The first two processes-Planning and Policy Development, and Direction and Assessment-are the basic processes inherent in the functioning of most governmental departments and are integral to the execution of the implementing core processes of the Institutional Force. Financial Management and Information Management are broad headquarters processes that cut across all other HQDA processes and functions.

5–1. HQDA Focus

a. HQDA, consisting of the Office of the Secretary of the Army, the Army Staff and associated SSA, is the organization responsible for performing the core capability, "Direct and Resource the Force." In discharging its responsibilities, HQDA must have the capability to support and respond to the Congress, Office of the Secretary of Defense (OSD) and the Organization of the Joint Chiefs of Staff

(OJCS). It must also represent the interests of the Total Army to other governmental agencies, the public, allies and other foreign countries. HQDA is a "Management Headquarters" within the definition of DoD Directive 5100.73, in which management refers to exercising oversight, direction and control of subordinate organizations or units. Scope of duties include:

(1) Developing and issuing policies and providing policy guidance.

(2) Reviewing and evaluating program performance.

(3) Obtaining and allocating resources.

(4) Conducting mid- and long-term planning, programming and budgeting.

Furthermore, there is a distinction between management headquarters processes and the operating processes associated with running the Army.

b. The execution of policy guidance provided by HQDA is performed by the MACOMs and FOAs. MACOMs are directly subordinate to, established by authority of and specifically designated by HQDA. The number of MACOMs is closely controlled, and manpower levels assigned to HQDA and the MACOM headquarters are annually reported to Congress. FOAs are also directly subordinate to HQDA, but the number of FOAs and their manpower levels are essentially unregulated. At present there are 14 MACOMs and 61 FOAs subordinate to the HQDA. HQDA operates with the DoD framework that overarches the three Service departments and the Defense agencies. It is envisioned that OSD will provide the military departments with broad multifunctional policy guidance and insure policy integration across Services. Ideally OSD will assign general missions and set goals and program guidelines, but not dictate the specific processes and means for the accomplishing the missions. Similarly, HQDA would tell the Army's operating commands what to do but not how to do it.

c. Critical to the reengineering of the HQDA is the establishment of a conceptual framework or model that presents the essential functions of the headquarters, integrates them into its core processes and shows their linkages to the more comprehensive core processes of the Institutional Force. Organizational management theory suggests that headquarters' processes be described in terms of a set of key management functions. When considering the role of HQDA and the core capabilities and core processes of the Institutional Force presented in Chapter 4, the following identify the Force XXI HQDA broad functions:

(1) *Leadership.* Formulation of a strategic vision as the basis for missions, priorities and resource distribution.

(2) *Human Resource Management.* Providing direction and policy governing utilization of active and reserve military personnel and civilian employees and oversight of the personnel life cycle and management of services for the family and the retired community.

(3) *Force Management.* Providing direction and policy governing force requirements for doctrine, personnel, materiel, leader development, training and organizations.

(4) *Military Strategy.* Conducting strategic planning for and apportioning Army forces to meet requirements of the combatant commanders.

(5) *Acquisition and Logistics Management.* Providing direction and policy governing the entire equipment life cycle and oversight of the Army's logistics systems to sustain the force.

(6) *Installations & Facilities Management.* Providing direction and policy governing management and resourcing of Army base operations which include base support, facilities, outsourcing, Army family housing, Morale, Welfare and Recreation (MWR) and nonappropriated fund (NAF), environment programs and military construction.

d. In addition to the strictly Army functions the Department manages, indicated above, the Army Staff has been tasked by the Secretary of the Army to serve as his action agent, acting as the Director of Military Support (DOMS) for the DA.

5–2. Planning and Policy Development

This HQDA core process incorporates the elements of strategic management that enable the Army's leaders to chart the long range and near term course they expect the Army to follow in meeting the program and operational guidance of OSD and OJCS. It is the process that combines the function of leadership with the strategic planning needed to develop the policies and guidance for the Army to operate. The Planning and Policy Development HQDA core process provides the "what" so that the second HQDA core process "Direct and Assess" can provide the "who, where, when and why."

a. The statutory responsibilities and authority vested with the Secretary of the Army are linked to the function of Leadership. This function provides: the Army vision; integrated objectives, requirements and programs; and prioritized resource allocation. Providing vision involves formulating and communicating the nature of the organization, including its values, guiding principles, purpose, future destiny and achievement goals. Integration of Army objectives, requirements and programs is a unique and demanding challenge of leadership in the sense that these tasks are internal factors in the strategic management of the Army. Equally important are the external influences operating in the Army's environment. These societal, cultural, political, economic, technological and military pressures continually confront the Army's leaders with constraints and contingencies that must be anticipated, interpreted and resolved on favorable terms, if possible. To be successful, the Secretariat and the Army Staff must be a well organized, efficient complementary team, capable of effective interaction in both the internal and external environments.

b. Positioning an organization for long-term viability and organizational health occurs through the strategic planning process. Strategic planning ensures an updated, consistent, holistic framework for executive decision making and provides a mechanism for integrating concepts across functions and capabilities. In HQDA, strategic planning should involve formulating the Army's large-scale, future-oriented plans. Army strategic planning stems from the NMS and the Joint Strategic Planning System (JSPS). From that process is derived the Army Long Range Planning Guidance (ALRPG) that creates a vision of the Army ten to 30 years in the future. The ALRPG is the vehicle that translates military strategy into the long range plans, requirements and priorities to support the vision. Such strategic planning might include: historical analyses of recent operations and institutional developments; assessments of current policy, initiatives, goals, objectives and internal performance measures; changes in law or higher direction; and other changes in the Army's environment such as threats, future needs or available resources and national interests or strategy. The assessment process and operational statistics should generate much of the internal information feeding the strategic planning process. Strategic planning, in turn, should feed the financial management and capital investment (real property and equipment) processes. Outputs might be revisions to the Army's vision and strategy, direction and goals, along with macro levels of performance measures. Strategic planning for the period leading up to the ALRPG is provided by The Army Plan (TAP). It links long term plans to mid-term objectives and gives resource guidance to the functional proponents and commands for program development. At present HQDA strategic planning and program development is conducted mainly by committees. There is no senior Army official to provide routine guidance regarding the competition between requirements and resources within the Army or at the joint and defense levels. By default this responsibility falls upon the Vice Chief of Staff of the Army (VCSA). This condition has been recognized and corrected on the Staffs of other Services and must be addressed by the Army in the transition to Army XXI. Change must be managed from the top to provide focus and to be consistent with long-term interests of the Army as a whole. The newly established Assistant Vice Chief of Staff, Army (AVCSA) may help resolve this deficiency.

c. Policy is the body of rules and regulations governing the operation of an organization. Webster defines policy as "a definite course or method of action selected from among alternatives and in light of given conditions to guide and determine present and future

decisions." Policies are related to the objectives, values, priorities and resources available, as determined by the Army's leadership. Policies may stand on principle and be immutable-"The Army supports equal opportunity for all soldiers and civilian employees;" or temporary, to govern a specific need or situation-"The Army authorizes families of soldiers on separate rations to purchase and partake of Thanksgiving Dinner in unit dining facilities." HQDA may disseminate policy in various ways: by Army regulations, messages, official publications, papers or in speeches by senior Army leaders. Policy may be established by the Secretary of the Army and the Chief of Staff or designated HQDA Staff principals and staff committees. The development and issuance of Army policy is a fundamental responsibility of HQDA and cannot be delegated to subordinate commands. In the HQDA reengineering process, policy responsibility should be a primary discriminator in consideration of functions to be devolved to lower levels of command.

5–3. Direction and Assessment

The "Direction and Assessment" HQDA core process is the mechanism that translates the planning and policy development process into the programs that empower the Army's many missions, both operational and institutional. Direction involves the essential management functions for which HQDA is responsible and that are directly linked to the Institutional Force's core processes. For example, the HQDA function of Force Management is primarily concerned with the Institutional Force core processes of "Develop Requirements" and "Develop Doctrine." A similar relationship prevails between the management functions of Human Resource Management, Military Strategy, Acquisition and Logistics Management, Installation and Facilities Management and the other Institutional Force core processes. In addition to these primary management functions that directly support the Institutional Force processes, there are other activities that round out HQDA's departmental responsibilities. These are termed "enabling activities" or "enablers." The enablers enhance the efficiency and effectiveness of HQDA outputs or provide the Army with the means, knowledge or opportunity to operate in DoD and to compete for resources. The enablers are Intelligence, Legal Services and Liaison. An essential counterbalance to the management process is the function of performance assessment; those measures taken to evaluate and, if necessary, correct the management outputs in terms of operational, programmatic and economic effectiveness.

a. This function includes setting long range strategic direction and policies that govern the management, utilization and potential of all active and reserve component military personnel and civilian employees. From a HQDA perspective, human resource management involves basic philosophies on when and how to employ both military personnel (active and reserve components) and civilians. Human resource management encompasses all facets of personnel life cycle management from recruitment to separation, inclusive of families and the retired community, and helps ensure a quality force.

(1) The Army promulgates polices on military personnel compensation and retirement programs, evaluation systems, equal opportunity, discipline, and so on. Whereas personnel functions such as force structure, recruitment, selection or training may most appropriately be handled in an operating MACOM, including those unique responsibilities vested in the Chief, National Guard Bureau (CNGB), linking Title 10 and Title 32, the responsibility for military personnel policy remains a headquarters responsibility, especially regarding sensitive areas, such as equal opportunity, compensation and retirement programs.

(2) Civilian personnel management policy provides employment rules and guidance for the personnel life cycle in accordance with law, the Office of Personnel Management, Department of Defense and Army directives. Recently the Secretary of the Army established a consolidated and realigned management structure for civilian personnel, manpower and related functions into the Office of the Assistant Secretary of the Army for Manpower and Reserve Affairs (ASA, M&RA). The results of an ongoing business process reengineering effort for civilian personnel management may provide further consolidation or realignment for the management of civilians. Oversight of the developmental processes ("Acquire, Train and Sustain People" and "Identify and Develop Leaders") is the direct link to institutional core processes.

b. Force Management as a HQDA function begins with the determination of a requirement for doctrine, personnel, materiel, training and organizations, and it culminates with the translation of these requirements into programs and force structure. HQDA is the prioritizer, resourcer and final arbiter for this process, with the participation of several MACOMs, while TRADOC is responsible for requirements development. Force management also includes a series of tasks, including :

(1) Prioritization of mission requirements within resource constraints.

(2) Authorization allocation to distribute resources to meet requirements.

(3) Integration to ensure availability and timeliness of resource mixes.

(4) Program analysis to predict requirements and assess performance.

(5) Operational testing and evaluation to insure materiel and information systems meet approved operational capabilities when fielded.

Presently the force management function is performed by the Army Staff and associated FOAs. As the director and allocator of resources, HQDA must retain responsibility for prioritization, authorization, allocation and program assessment. In the 21st century, however, supporting processes can be shifted to lower levels. The devolution of management processes (not responsibilities) will be facilitated through the use of interactive information systems among HQDA and MACOMs. For example, the Total Army Analysis (TAA) process can go on-line being continuously updated and manipulated within DA approved guidelines, while preserving some periodic conferences to adjudicate the sometimes divergent interests of the force developers and force employers. At appropriate times in the Planning, Programming, Budgeting and Execution System (PPBES) cycle, the system can be accessed for program alternatives, minimizing the frequency of periodic conferences, and increasing responsiveness for leadership queries into force structure status. Complementary devolution of the entire force documentation process and integration with the combat developments function offers significant efficiency and cost reduction. This example of the devolution of supporting processes, while retaining management authority at the HQDA may be replicated across all of the HQDA management functions. The HQDA Force Management function is directly linked to the "Develop Doctrine" and "Develop Requirements" institutional core processes.

c. The HQDA function of Military Strategy is a component of the strategic planning process discussed in paragraph 5–2 above. It is primarily concerned with coordination and implementation of the Army's planning and support of the JSPS. This includes supervision of the Army's force requirements planning process that results in the force structure reflected in the Army's program and budget, and the Army's response to the Joint Operation Planning and Execution System (JOPES), which supports the combatant commanders' Operations Plan (OPLAN) and Contingency Plan (CONPLAN) requirements. That response, the Army Mobilization and Operations Planning and Execution System (AMOPES), is the vehicle by which all components of the Army plan and execute actions to provide and expand Army forces. Another important HQDA function, directly related to providing and mobilizing forces, is managing force readiness. Monitoring and projecting operational unit status enables HQDA to make the resource allocation decisions to ensure adequate active and reserve component unit readiness. The Military Strategy function has primary responsibility for oversight of the force generation and projection core processes ("Tailor, Mobilize and Project Landpower" and "Support Organizational Training"). As in the Force Management function, it is necessary for HQDA to retain policy and resource allocation authority over the force requirements,

mobilization and readiness functions. The supporting processes should all be considered for devolution to MACOM level.

d. The Acquisition and Logistics Management function includes oversight of the entire equipment life cycle, less operational test and evaluation, from research and development to acquisition to procurement to sustainment and finally, to disposal, along with oversight of the Army's logistics systems for sustaining the force. The DoD Acquisition Reform Policy of May 1995 established the Integrated Process Team (IPT) as the standard approach for each Service's research, development and acquisition (RDA). The multifunctional experts on the IPTs are empowered with greater flexibility to streamline the R&D and procurement processes and supply best practices rather than relying exclusively on bureaucratic rules. The current Joint Requirements Oversight Committee (JROC), PPBES and overall requirements determination process should be reevaluated in light of the new implications of DoD Acquisition Reform. The Assistant Secretary of the Army for Research, Development and Acquisition (ASA, RDA) is the current Army Acquisition Executive (AAE) and is responsible for establishing policy and resourcing of RDA activities. Priorities are currently the responsibility of the Deputy Chief of Staff for Operations and Plans (DCSOPS). In reengineering, consideration should be given to broadening the AAE's responsibility in the area of information systems acquisition and in determining whether some of the RDA activities at HQDA can be devolved to MACOM level (AMC) without compromising the provisions of the Goldwater-Nichols legislation that directed the AAE responsibilities for acquisition to be centralized in Service Secretariats. At the same time, we must continue to leverage the "intensive management" advantages of the Program Executive Office concept for key acquisition programs.

(1) An important part of the equipment life cycle process is the supportability and sustainability of the equipment when fielded. Supportability should be designed in during system development and requisite support items developed, acquired and fielded along with the materiel system. This is the purpose of the Acquisition Logistics function under the purview of the Deputy Chief of Staff for Logistics (DCSLOG). The DCSLOG is responsible for developing acquisition logistics policies and procedures that are integrated with other HQDA and DoD acquisition policies and procedures to provide world class, supportable, sustainable equipment to our soldiers

(2) Logistics planning responsibilities at HQDA include analysis of combatant CINC OPLANS to identify, develop and recommend logistics policy, programs, plans and systems. It also includes assessing logistics readiness and sustainability. Logistics sustainability projects the future availability and serviceability of equipment. It examines requirements versus availability of repair parts and other supplies, issue and turnaround times and storage, transportation and related facilities. These functions are necessary to support Army long range planning and to assist the Chief of Staff in his joint responsibilities. The DCSLOG is responsible for logistics planning that is conducted mainly by the DCSLOG SSA and FOA. The Assistant Secretary of the Army for Installations, Logistics and Environment (ASA, IL&E) also has oversight responsibility for the planning function. In considering consolidation and efficiencies, the separate roles of the two HQDA staff elements was evaluated. The HQDA Acquisition and Logistics Management function is directly linked to the "Maintain and Sustain Land Operations" and "Acquire, Maintain and Sustain Equipment" institutional core processes.

e. The Installation and Facilities Management core function provides for the effective management of Army installations at all levels of command. It includes: Army secretariat policy and oversight responsibilities (to include responsiveness to other secretariat agencies, OSD, Office of Management and Budget (OMB) and Congress); Army Staff responsibilities for direction, planning, programming, resourcing, policy and doctrine, and the development and institutionalization of installation management initiatives; and the related operational support and execution in SSAs, FOAs and MACOMs.

(1) Major functions include base support, real property management, outsourcing, Army family housing, Morale, Welfare and Recreation (MWR) and non-appropriated fund (NAF), environmental programs and military construction. The objective is to provide installation and garrison commanders the flexibility to manage base operations as effectively and efficiently as possible.

(2) In reengineering the HQDA Installation and Facilities Management process the Army should focus on opportunities for increased effectiveness and efficiencies in the management of base operations. This can be accomplished if functional proponents establish standards and metrics for each BASOPS activity, within scrutinizable requirements, and determine a measurable "range of goodness" for resourcing purposes. Encompassing the full spectrum of BASOPS functions at the Army Staff level would produce a visibility needed for critical management and resource decisions. When the Army evolves to this capability it can then establish a Base TEMPO much like OPTEMPO in support of the envisioned power projection bases. The HQDA Installation and Facilities Management core function is linked to the Institutional Army core process "Acquire and Sustain Infrastructure" and "Operate Installations" at the operational level of command.

f. Enabling activities include:

(1) *Intelligence.* Intelligence is the product resulting from the collection, processing and analysis of all available information needed to protect U.S. interests from actual or potential foreign threats. Under the provisions of Title 10 U.S.C., "the Secretary of the Army is responsible to the Secretary of Defense for the effective supervision and control of the intelligence activities of the Department of the Army." At HQDA the General Counsel has general supervision over intelligence activities. The DCSINT has overall responsibility for coordination of the intelligence and counterintelligence activities of the Army under the direction of the Chief of Staff. Operational implementation of the departmental intelligence programs is conducted primarily by the INSCOM, a functional MACOM. INSCOM and several DCSINT FOAs have been significantly restructured and downsized since the end of the cold war. The Army XXI aspects of INSCOM are discussed in Chapter 8. As an enabler, intelligence is a basic activity for HQDA to perform if it is to operate as a military department headquarters. Intelligence support is also integral to the operation of other institutional core processes. For example, threat factors are a fundamental concern in force management, doctrinal development and organizational design; threat data and foreign technology information are central factors in the equipment acquisition process; sound intelligence information is essential to design both individual and collective training programs; and most importantly, accurate intelligence is vital to the success of force projection and sustainment operations.

(2) *Legal services.* This activity involves providing competent legal review and advice to support senior level decision-making. The essential nature of HQDA requires the ready availability of expert legal advice on a wide range of issues. In order to make fully informed decisions, the senior leadership must be advised on the legal implications of various options. This requires that Army or OSD lawyers be involved at key points in the other HQDA processes. Correspondingly, it is essential that each staff element have ready access to Army or OSD lawyers with specialized expertise to advise on the full range of legal issues affecting the HQDA. In addition, the legal function extends to relations and communications with legal counsel from other Federal agencies and to Congress. Because litigation against the Army challenges the senior leadership's ability to decide and act, the Army is best served by maintaining a closely-held ability to respond to legal challenges and to advocate the Army's position. Finally, the legal function must include preservation of the independence of the military justice system.

(3) *Liaison.* The Army has a need to be recognized and understood to maintain public goodwill and to support its employee commitment. Liaison is the process of establishing policies for telling the Army's story and communicating the Army's position to various audiences. Liaison involves the type of activities currently performed under the auspices of the Chiefs of Legislative Liaison and

Public Affairs. HQDA is responsible for insuring dissemination mechanisms exist for articulating the Army's approved vision, philosophy, strategies, programs and vital interests, not only to external audiences such as the Congress, but also internally to its military and civilian community. A comprehensive liaison initiative would include inter-government relations and a public affairs plan composed of media relations, community relations, command information, advertising, a speakers bureau, Army newspapers and radio and television networks.

g. Most large public and private sector organizations have well established measurement and reporting processes in place largely because of external reporting requirements. Similarly HQDA needs to report performance indicators to the Congress, OSD and other government agencies, as well as to have performance feedback as a proactive internal management tool. Performance assessment is the process of systematically monitoring the results of programs against key measures with the goal of continuous improvement. Currently, performance assessments are performed by the General Accounting Office, DoD Inspector General, the Army Audit Agency, the Army Inspector General, Internal Review, the U.S. Army Civilian Personnel Evaluation Agency and the Quality Management office. Greater use of standard performance measurement data and reporting applications would facilitate the linkage of performance assessment information to the strategic planning and executive information management processes. The performance assessment might include factors such as quality, quantity, cost, customer satisfaction or compliance with policy. Clear performance measures should be identified to gauge organizational progress. Also, performance improvement opportunities identified from studies, inspections and reviews could all become institutional assets and analyzed/used by managers to improve processes, implementation and even direction and goals. Performance assessment results could feed the change management functions within every other process, as well as the performance appraisals of executives.

5–4. Financial Management

Financial management is the process of efficient acquisition, allocation and use of resources in order to effectively accomplish assigned missions. The process is cyclic and includes planning, programming, budgeting, allocation, execution, accounting and reprogramming. As such, financial management entails the concept of "stewardship" and has a basis in law. Department of the Army is vested with the public trust regarding national defense expenditures. This implies that HQDA will ensure consistent Army-wide use of best practices in cost accounting and budget tracking systems even though budget execution may be decentralized. In an operational context, financial stewardship is the Army's ability to effectively and efficiently get the right resources to the right programs at the right times to enable subordinate organizations to achieve the Army's goals. The financial management functions related to funds acquisition, allocation, control, execution and reporting will be conducted during peacetime, wartime and operations other than war. The current process lacks timely top-down direction; decisions continue to be revisited. The system is too labor intensive and too duplicative. The process should be streamlined. Information technology can greatly increase senior level participation and decrease the time and effort associated with programming and budgeting. Program and budget meetings could be replaced with electronic conferences and group decision-support systems to receive Planning, Programming and Budgeting System (PPBS) inputs and involve multiple leaders in scenario based program development. Electronic transmission of PPBS documents can support multiple iterations of plans, programs and budgets during the same PPBS cycle. Financial management interacts with the "Planning and Policy Development" and "Direction and Assessment" HQDA core processes in the sense that it resources the programs that are the products of those two processes.

5–5. Information Management

Information Management is a process that spans the entire Army. It ensures a valid framework exists to support the full range of functional decision making and cross-functional operations Army-wide. The objective is timely, accurate and relevant information for all decision makers and operators. Information Management is an enabling process of all other processes. Application of Information Management theory (doctrine) includes:

a. Managing information, to encompass both the management function and the information technology function. Identifying information requirements, based on sound business practices, and documenting process and data flows are part of functional management. Establishing technical interface standards for supporting information systems is part of the information technology function.

b. A Corporate Information Officer (CIO) must make the functional decisions that integrate information management efforts, such as linking processes across functional areas.

c. Organizational structure and information systems should be designed to support and operate the processes through which the organization will do its job. Information architecture planning must be, concurrently, based on functional requirements/business processes, and highly interactive between the functional and technical communities in the development of information technology support and acquisition. This is essential to exploit rapid technology opportunities not facilitated by a sequential acquisition approach.

d. Standard, shared data coupled with a building code, including an interoperability approach or standards, ensure integrated systems. Defining functional requirements in functional mission terms as a flow of standard, shared data facilitates information systems support.

e. The basic outputs of information management are documentation of how the business is run, to include interfaces across functions, and the standards for information interface, to include standardized data functions.

After establishment of information requirements and standards, implementation of supporting systems may be decentralized. Information systems focus must be enabling and supportive of the functional mission. For example, performance measures of information systems must include improved functional performance. Within the Operational Force, the Army has integrated the development of information doctrine, architecture, and systems as a primary enabler of future military operations, in the dynamic of Battle Command. Similarly, the Institutional Force should design process around information flows.

Managing information policy and standards must be enablers and not stumbling blocks. The objective is to accomplish functional missions. The information systems acquisition and information technology management aspects of information management are similar to the systems acquisition and technology management for weapons systems. Some consolidation of processes and organizations may be appropriate and yield efficiencies. Also the functionality of the Army Digitization Office, or, in its absence, some form of change management agent for application and acquisition of information technology, will help ensure the fielding of interoperable systems which are technologically compliant with approved information architecture. and a design basis for future forces, would ideally be internal to future force development operations.

5–6. Reengineering and Redesigning HQDA

Having identified the HQDA core processes and functions it is possible to describe an organizational model to execute the processes. A HQDA model that embodies this concept is depicted in Figure 5–1.

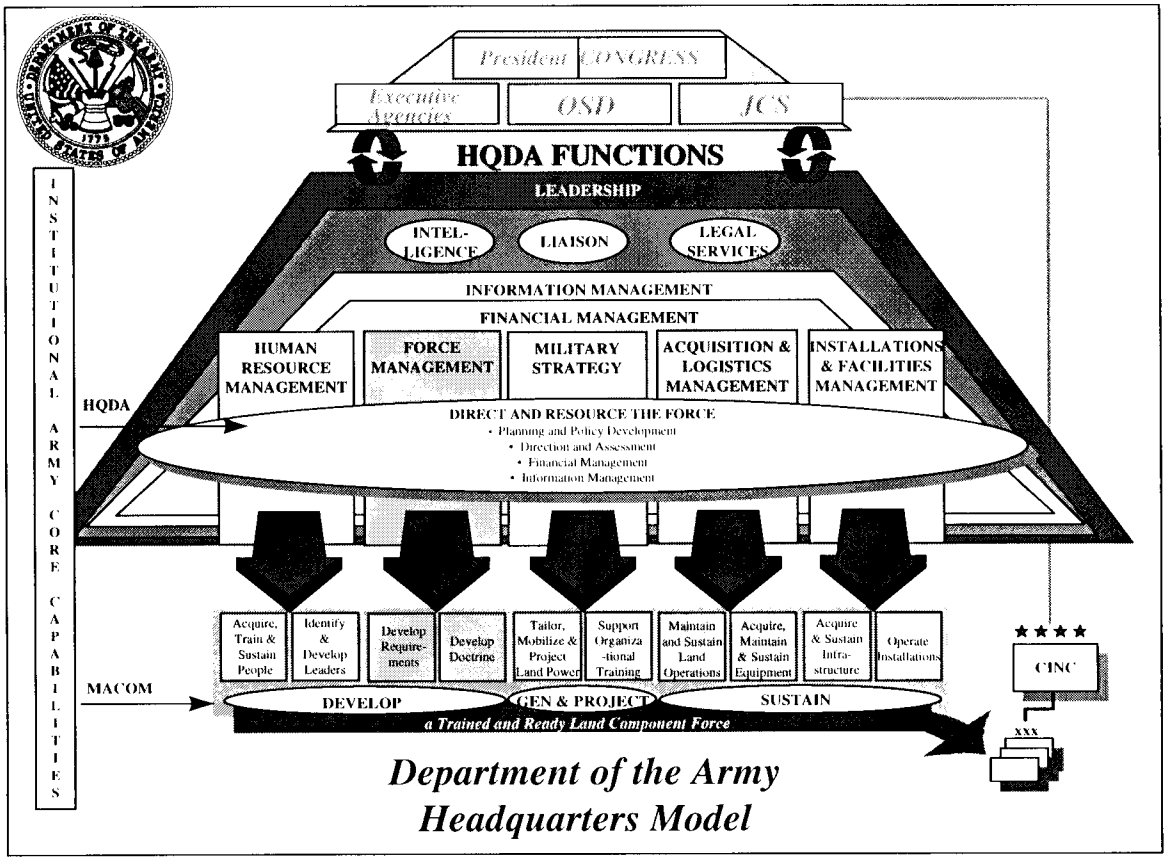

Figure 5-1. Department of the Army Headquarters Model

a. The model illustrates an idealized Army XXI Departmental Headquarters and thus provides a framework for developing effective organizational design for the HQDA and for formulating structural alternatives. The two core and two cross-functional processes, along with the enabling activities, provide a criterion framework around which to evaluate the structure and activities of the current organization. The specific activities and contributions of the various offices in the Secretariat, Army Staff and associated SSAs can be assessed in the institutional core and cross-functional processes:

(1) Planning and Policy Development
(2) Direction and Assessment
(3) Financial Management
(4) Information Management

The management functions comprising these processes are directly related to the core capabilities and processes of the operating elements of the Institutional Force: the MACOMs and FOAs.

b. In the 21st century, HQDA will make policy and integrate efforts and execute policy only in limited circumstances; MACOMs will execute policy with a singleness of purpose-each focused on its own unique competency. Through divestiture of all non-essential functions and delegating sufficient authority to field commanders, HQDA can focus on: formulating policy and providing the corporate planning and direction of leadership; monitoring and evaluating performance; programming; and resourcing.

c. External political and economic factors as well as internal needs for organizational balance and improved effectiveness compel the Army to reengineer HQDA with respect to organizational structure and redesigned process. Past studies suggested improvements in efficiency by merging elements of the Secretariat and the Army Staff with similar functions and by reducing the size and composition of SSAs and FOAs. Many such changes are yet incomplete. Merger and consolidation of major program offices must remain a subject of continuous review within the institution to realize efficiencies associated with eliminating redundancies and to preclude the reemergence of redundant offices as we transition into the 21st century.

d. In a number of other areas that are fundamentally military-such as operations and intelligence, and some aspects of personnel and logistics-full merger between the Secretariat and the Army staff appears inappropriate. The current division of responsibility recognized the unique role of both civilian appointees and military staff and avoids potential politicization of the military staff which must remain operationally oriented.

e. Moreover, in performing his statutory authority as a member of the Joint Chiefs of Staff (JCS), the Chief of Staff must retain a staff to assist in his joint service planning duties. This planning is

mainly concerned with the force generation and projection capability of the Institutional Force but also includes budgetary, force development and force sustainment requirements. The division of focus-the business-like focus of the Secretary and the operational focus of the Chief of Staff as a member of the JCS-is expected to continue, if not expand, in the 21st century.

5–7. Summary

It is clear that HQDA needs to be smaller and more focused on its core processes. To achieve this, the Army should:

a. Eliminate existing organizational components that perform non-essential functions;

b. Transfer or divest functions and processes to MACOMs;

c. Eliminate layering, consolidate like activities and reduce administrative overhead;

d. Redesign internal HQDA processes to fully exploit the advantages of information technology and to improve responsiveness and quality of products and services to its customers. The information age of sharing and exchange of electronic information over secure, world-wide networks creates the capability to retain responsiveness to and control by HQDA, while migrating the work to locations other than at the headquarters;

e. Wherever feasible and appropriate, outsource or privatize functions or activities;

f. Continue to keep the American people and Army informed, helping establish public confidence and support in our Army's capabilities and its readiness; and

g. Integrate risk management as the primary means of protecting the force. This is essential for successful transition from the industrial-age technology to the information-age technology.

By applying these principles to all HQDA components, including all SSAs and FOAs, the Army will improve management decision making processes and produce real resource cost savings. However, any process redesign and subsequent reorganization should be carefully implemented to ensure there are executable hand-offs from today's functions to the future design.

Chapter 6
Develop The Force

The core processes comprising this capability are:

Develop Doctrine
Develop Requirements
Acquire, Train and Sustain People
Identify and Develop Leaders

The doctrine, requirements and leader development processes and the training of individuals are currently accomplished mainly by TRADOC. In addition TRADOC acquires the majority of officers through the Reserve Officer Training Corps (ROTC) program. The USMA, Officers Candidate School (OCS), state officer candidate programs operated by the ARNG and direct appointments account for the balance of officer acquisition. The U.S. Army Recruiting Command acquires active Army and U.S. Army Reserve (USAR) enlisted soldiers; National Guardsmen are acquired by the respective states and territories. Civilian personnel are acquired under various Civil Service appointing authorities or by local civilian personnel offices or regional Civilian Personnel Operation Centers. Except for TRADOC's ROTC program, active and U.S. Army Reserve military personnel acquisition is accomplished by FOAs reporting to HQDA, Deputy Chief of Staff for Personnel (DCSPER). Force XXI envisions the emergence of a multi-functional MACOM responsible for maintaining the complete Force Development capability and the many associated processes discussed below.

6–1. Develop Doctrine

In the present transition to knowledge-based operations, the greatest intellectual challenge confronting the Army will be to maintain its doctrinal relevance. The next ten years will be a time for doctrinal versatility. Even as FM100–5 opens the doctrinal window to the need for multinational operations, and to a greater role for American forces in peace enforcement and other SASO missions, strong feelings for disengagement from international military ventures are being expressed by the public and several members of Congress. As these questions of national purpose are being decided, the Army's doctrinal processes must be flexible but must always keep in focus the Army's reason for being: to win the nation's wars.

a. The Army's doctrine development process is effective while simple because it is based on sound principles of responsibility and accountability:

(1) MACOM (TRADOC) assigned responsibility;

(2) TRADOC develops warfighting concepts that become the basis for Army doctrine;

(3) TRADOC develops and approves Army doctrine and multiservice tactics, techniques and procedures (TTP) in support of echelons above corps (EAC) and combined arms doctrine; and

(4) HQDA approves keystone and select capstone Army doctrine. In addition, the doctrine development process proponent command, TRADOC, also develops the Army position on joint doctrine for HQDA approval. The Army Medical Department Center and School develops the Army position on joint medical doctrine and forwards it to HQDA for approval.

b. This will remain a fundamentally sound process but must become more flexible to accommodate frequent integration of new ideas and more fluid coordination. In the transition to Army XXI operations, the increasing importance of joint operations demands that there be a close interface with joint doctrine and consideration for the doctrine of the other Services. Like TRADOC Pam 525–5, doctrine must become a "living" entity to inform and to be informed by:

(1) Historical example
(2) Current operations
(3) Experiments
(4) Training experiences
(5) Technological advances
(6) Domestic and international conditions

c. In the immediate future the Combat Training Centers, Battle Labs and the advanced warfighting experimentation (AWE) process will play a leading role in development of tactics, techniques and procedures. The Force XXI development process will provide unique opportunities to bring together the conditions described above in the context of information-age experiments. Moreover, AWE offers the framework for interneted coordination of doctrinal revision and integration. The process can be accelerated and the product, timely relevant doctrine, will be enhanced.

6–2. Develop Requirements

Requirements development has traditionally been a linear process that theoretically originates with a warfighting need of the tactical commander, the user. The user need was developed by the user representative, a TRADOC branch school, forwarded to HQ TRADOC for further evaluation and prioritization, then forwarded to HQDA DCSOPS for approval. Later a cyclic Concept Based Requirements System (CBRS) emerged in which concepts derived from long range planning guidance and other inputs became the basis for DTLOMS requirements.

a. CBRS has now evolved to a horizontally integrated, interactive, iterative process involving combat developers, materiel developers and testers. This interaction and cooperation across MACOM "boundaries" reflects the guiding principle of Force XXI, that is, the need to organize and operate around "information" instead of fixed hierarchical structures. The process supports solution development for contemporary issues identified by operational forces in addition to anticipated warfighting needs based on concepts for future operations. While materiel solutions generated by the CBRS process have the most visibility, the CBRS process complies with the DoD 5000 series directives to also identify doctrine, training and organization solutions. The least expensive, but still

effective, solution to a contemporary issue or anticipated need is identified as a basis for investment decision by Senior Army leaders. Army requirements will increasingly be based on joint concepts and in Army XXI new organizations and systems must be compatible and capable of integration within a joint warfighting construct.

b. TRADOC's publication of the RDBB, March 1996, prefaced by the Chief of Staff of the Army, provides an overview of this new multifaceted, experimental process. It describes how the Army will use integrated concept teams, multi-disciplinary teams from throughout the Army, industry and academia, to determine holistic DTLOMS requirements that consider cost as an independent variable. This pamphlet will be followed by an update of AR 71–9 to provide requirements determination policy and responsibilities and publication of a series of TRADOC pamphlets to serve as requirements determination procedures guides.

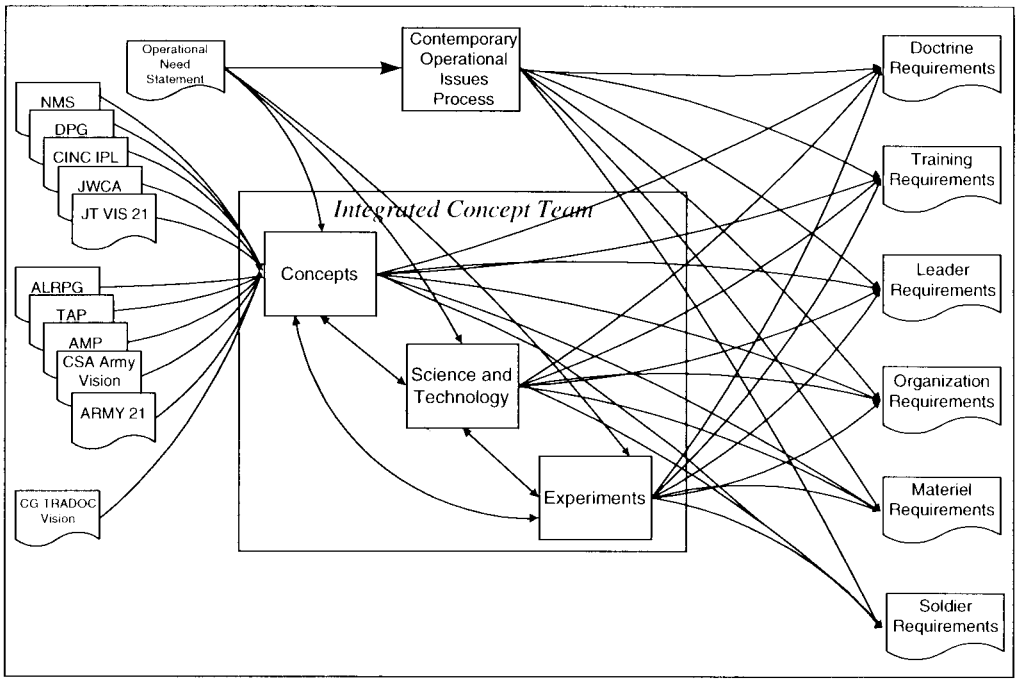

Figure 6-1. Requirements Determination

c. The heart of the requirements determination process lies in TRADOC's combat development community. The battle labs have been introduced into the community to expeditiously identify, investigate and develop improvements in DTLOMS by means of experimentation. The RDBB also documents the relationships between the user representatives who determine DTLOMS requirements, battle labs, combat developers, trainers and doctrine writers, and their linkages to the organizations that produce and field solutions. Battle labs plan and conduct warfighting experiments, while Directorates of Combat Development produce warfighting concepts, materiel operational requirements documents and branch organizational designs. TRADOC school commandants are responsible to define, document and defend DTLOMS requirements.

6–3. Acquire, Train and Sustain People

The Force XXI concept is predicated on leveraging the potential of information age technology to change the battle dynamics, giving the future Army the means to achieve a qualitative edge in operations and produce overwhelming, decisive, effects-oriented power. But technological overmatch can only do so much. Success in battle has always depended first on the fighting ability of platoons, companies and battalions backed up by effective logistics sustainment. The high quality standards for Army personnel that have been established for today's Army must be preserved and strengthened for Army XXI. The task of attracting and recruiting high quality military and civilian personnel for the active Army, the ARNG and the USAR will not be easy.

a. The vision of the 21st century personnel management interrelationships will be viewed within the context of the Personnel Lifecycle, a system that applies to the active Army, the reserve components and DA civilians. It is within the Personnel Lifecycle, depicted in Figure 6–2, that new systems associated with reengineered, redesigned processes will be subjected to experimentation to satisfy the requirements of Army XXI.

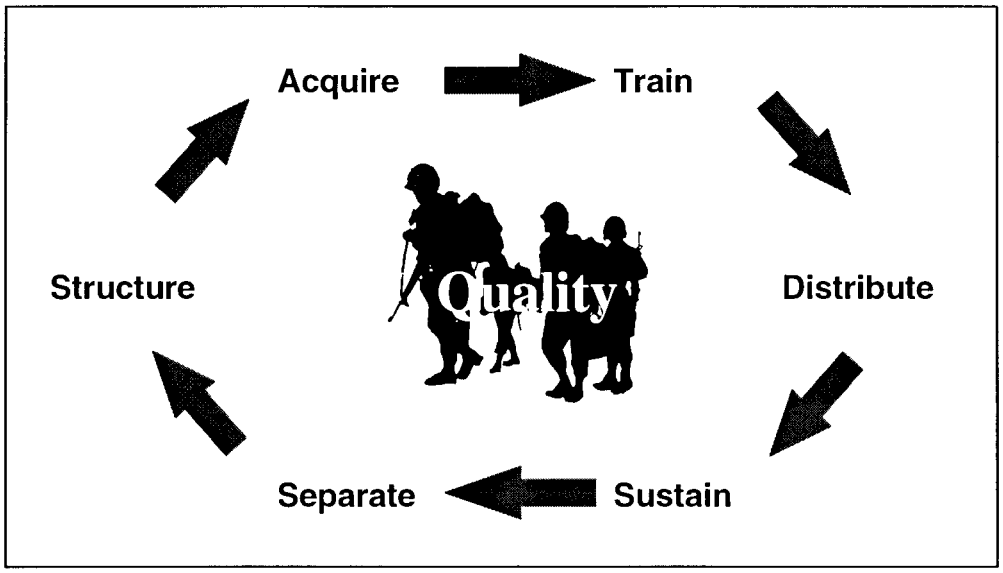

Figure 6-2. The Personnel Lifecycle

(1) *Structure.* The Army's force structure establishes the requirements for the following phases of the lifecycle and is the foundation upon which the personnel management systems are built. The structure, a product of the core processes discussed in Chapter 4, is dynamic and subject to change in accordance with changing Army missions, strategy and capabilities. Changes made to accommodate these operational considerations can reverberate among personnel management systems to affect such factors as promotion, change of station, priority of fill, recruiting and retention missions and training seat availability. A requirements basis must be established by and for the Institutional Force that drives the same processes for the civilian component. Increased coordination will be needed among integrated databases to synchronize 21st century authorization and manning documents through the force management process.

(2) *Acquire.* The process begins with acquiring the right recruiting force and ends with the acquisition of the correct mix of personnel. As the post-Cold War force reductions reach a steady-state in the late 1990s, the annual military personnel accession mission for all components will increase relative to the drawdown period, resulting in a new challenge for a recruiting force that itself has been subjected to the manpower constraints of a smaller Army. Army XXI will require more efficient recruiting activities equipped with modern information systems and other technologies to accomplish the mission. Field recruiters will have to make more contacts to get both quality and quantity. Similar challenges will be imposed on the process for acquiring civilians as the role of the institution continues to evolve and coalesce with the operational forces.

(3) *Train.* The Army XXI Institutional Force must train, educate and develop leaders, soldiers and civilians who are innovative, agile-minded and disciplined. To determine management needs for the future force, analysis and modification of officer, enlisted and civilian training management systems are required. Additional Army XXI individual training insights are provided in paragraph 6–3*d* below.

(4) *Distribute.* The distribute dimension of the Personnel Life Cycle is limited largely to military personnel, although many civilians have mobility written into their conditions of employment. And in peace time, distribution is an almost exclusively active component issue; reserve component soldiers are not distributed throughout the Army, but return to their home units after initial entry training. Unlike the flow problems associated with supply inventory management, differences in the quality and ability of soldiers add a critical human dimension to the process of personnel distribution. Commanders' desires, soldiers' desires and career development issues affect the distribution process. In the future, distribution managers will consider factors such as battlefield digitization aptitudes, simulation training, functional automation experience and other factors not yet identified. Personnel replacement operations will be compressed in both peacetime and conflict. More direct, real-time information transfer systems will be required in the future to support replacement operations.

(5) *Sustain.* This function consists of those measures that recognize each soldier and civilian employee as a valuable member of his or her organization. The quality of life initiatives that have been developed since the end of draft conscription, to include family support programs, must be continued and strengthened as the Army transitions to Army XXI.

(6) *Separate.* Soldiers and civilians leaving the Army must have access to private sector employment opportunities. An expanded information and outplacement network will be established to provide these potential recruiting aides to prosper and to promote the

Army within civilian communities. With a proportionally larger reserve establishment, the transition of active soldiers into the ARNG and USAR will contribute to maintenance of reserve component end strength and will preserve the availability and experiences of personnel with prior service. This in turn will aid in reducing post mobilization training time by reserve component units when called upon in times of crisis.

b. Quality people, modern equipment and improved training methods all contribute to higher unit readiness. Another less definable but equally important component of readiness is unit cohesion, the spirit of teamwork and mutual trust that is the hallmark of high-performing units. In the past, the Army's active Operational Force units have suffered from a lack of cohesion, especially among infantry units involved in extended periods of ground combat.[3] A major contributing factor has been personnel turbulence, particularly among leaders, and a resultant decrease in unit stability, although force structure dynamics, professional development and unit readiness requirements are also contributing factors. Post-Vietnam combat actions in Panama, Iraq and Somalia have been of short duration and conducted by U.S. forces with overwhelming technological overmatch. These favorable conditions tend not to test the limits of unit cohesion. The principles of Army XXI operations seek to ensure that American dominance of the modern battlefield will prevail in the 21st century. But conditions can rapidly change and war is unpredictable. Reductions in personnel turbulence and improved unit stability will help insure that Army XXI can achieve its full potential. To do so will require a reexamination of personnel policies affecting the active and reserve components, as well as the civilian workforce. New conditions may require new initiatives, but policies that failed to work in a large forward deployed force should be reevaluated in a smaller, power projection force. The following should be considered for serious evaluation, rigorous analysis and possible adoption:

(1) Provide greater assignment stability due to reduced demands for overseas forward deployment; expect frequent short term (one to six months) deployments stemming from SASO.

(2) Extend service careers to allow more time in unit assignments.

(3) Revise the officer personnel management system (OPMS) to permit junior officers to spend more time in units.

(4) Develop and test a new Total Army Replacement System that includes both individual and unit replacements.

(5) Revise the regimental system to align personnel affiliation with home-based divisions to build esprit among combat, combat support and combat service branches. The essentially CONUS-based active forces should reduce transients and foster this type system with its inherent stability.

(6) Cross assign active and reserve personnel in active and reserve component units to develop more consistent leadership experience and a more compatible relationship between components.

c. At present all of the Army's civilian personnel are assigned to positions in the Institutional Force and in 1996 are projected to be at 257,000, approximately 19% of the Total Army endstrength. Although the Army has taken extraordinary measures to mitigate the effects of the post-Cold War personnel drawdown on both its military and civilian components, the impact on the civilian workforce has been severe. Unlike the military endstrength, which is projected to level off after 1996, civilian end strength, as derived from OSD directed work years, is projected to continue to decline through the end of the century.[4] Rapidly changing information technologies will drive the requirement for DA civilians to deploy with the force. The traditional military vs. civilian support roles blur as we transition from a "strategic" or "tactical" environment into an integrated, synchronized battlespace. Additionally, the Federal Office of Personnel Management policy and regulations will have to be reviewed and updated to accommodate the potential for civilians being deployed. In considering civilian personnel issues for Army XXI, it is therefore necessary to stabilize the workforce. Initiatives must be taken that will encourage civilians who have survived the drawdown and those entering the workforce to identify with the organization and feel a part of the Army. The Force XXI concept of total power projection will broaden some of the roles in which civilian personnel have traditionally been employed. CS and CSS units at Echelons above Corps (EAC) will begin to lose their distinction as TDA and MTOE organizations as the sustaining base support extends into the theater of operations. Split-based operations will generate units that routinely maintain a core base in CONUS, and civilian technicians, leaders and contractors will increasingly be operating at both ends of overseas deployments, particularly in SASO where critical specialties are not readily available in sufficient numbers in either the active or reserve components, for example, linguists. The relative decline of pre-negotiated host nation support agreements will necessitate more frequent [5]deployment of DA civilians and contract hires within an area of operations. Some of these initiatives became necessary in Operation DESERT STORM and generally worked well. In Army XXI operations, tactical civilian support concepts must become doctrinally established. It will be necessary to predetermine operational functions to be performed by military and civilian components, conduct mission-based analysis and determine appropriate force mixes. This will allow planners to determine the increments of civilian manpower to be assigned to deployable positions, as well as the metrics which define institutional requirements vis-a-vis its support of the operational force, and to program the necessary training, equipping and organizational identity for these employees.

d. During the latter years of the Cold War the Army made a vast investment in individual, leader and unit training. The fundamental lessons and benefits of that investment will endure through the transition to a power projection strategy and a smaller Army. However, there are new conditions that will require changes in how and where training will be conducted to support Army XXI operations. Perhaps the most far reaching effect is already being felt, that is, the power of the computer and the microchip to simulate the battlefield environment in the classroom, and to do it in ways that could not be achieved in the training area. Fortunately these technological advances are reaching their potential at a time when training funds are being curtailed and training areas are shrinking in relation to the increased range of weapon systems and aircraft being employed by combat units. Training simulation needs to be extended beyond the battlefield and applied in the Institutional Force as well.

(1) There will be a reexamination of the three pillars-institutional, unit, and self development-of the Army training system. It may be that the internetting of information among installations/armories/reserve centers will enable more of the traditionally institutional training to be conducted through distance learning in units on either a group or self-development basis. Such a system could reduce the cost of sending officers, soldiers and civilians to schools and enhance unit cohesiveness by soldiers learning in the company with members of the squad or platoon. Use of distance learning should allow the Army to get more efficiency from force structure, provide more training opportunities to a greater number of soldiers and civilians, provide greater flexibility of scheduling, increase the speed of the transmission of knowledge and develop greater integration of the force.

(2) While missions are increasing, doctrine is changing and technology enhancements are accelerating, the trend to divest old skills is not keeping pace with the need to incorporate new ones. However, caution must be exercised in the possible proliferation of the numbers of military specialties in an attempt to provide a precise

[3] John C.F. Tillson and Steven L. Canby, Alternative Approaches to Organizing, Training, and Assessing Army and Marine Corps Units, prepared for the Office of the Secretary of Defense (Force Management and Personnel), Institute for Defense Analysis, November 1992.

[4] AUSA Background Brief No. 67, Summary: Department of Defense Budget and Department of the Army FY96 Budget, March 1995.

[5] John C.F. Tillson and Steven L. Canby, Alternative Approaches to Organizing, Training, and Assessing Army and Marine Corps Units, prepared for the Office of the Secretary of Defense (Force Management and Personnel), Institute for Defense Analysis, November 1992.

match to every requirement, however obscure, continuously. This could result in even greater demands for ever more sophisticated information management systems and related impact on assignment stability. Alternatively, a smaller number of broader, more comprehensive skills, complemented by the civilian work force and private sector for unique and/or short term requirements such as SASO, would mitigate the overall personnel turbulence challenges attributable to a smaller force with a large number of diverse skills. Both individual and unit training will emphasize an awareness that joint operations are a normal part of both the curriculum and the training environment. Joint training will start in basic officer and enlisted courses. The principles of effective training that have been developed over the years will not change. Training will continue to be task-based to a standard under varying conditions.

(3) In view of the potential for civilian personnel to be integrated into CS and CSS EAC organizations for Army XXI operations, there will have to be a more comprehensive system to determine and resource civilian training seat requirements for appropriate military schooling. This may include attendance of civilians in both military occupational specialty (MOS) producing courses and in leadership courses, primarily reserved for training and education of military personnel. Ancillary issues, such as life insurance, health benefit programs, Geneva Convention accords and the Uniform Code of Military Justice applicability to deployed civilians, will all have to be addressed.

6–4. Identify and Develop Leaders

Army XXI operations will require leaders who have a broader understanding of war and the art of command. This applies to the active, reserve and civilian components of the force. They will be trained in joint and multinational operations and skilled in harmonizing all aspects of operations throughout an expanded battlespace. Overall training in information management will be required; everyone must be computer literate. They will be versatile, able to command in battle and SASO. They will operate effectively in military organizations that are flatter, internetted and in operations that may be fast moving, complex and often ambiguous in their purpose.

a. The Army has been successful in developing effective battalion and brigade commanders. The techniques that have been used should be continued. The same is true for senior noncommissioned officers (NCOs) at the first sergeant and sergeant major ranks. Given the complexity of future operations there must be more progress in developing junior officers and NCOs. To do this will require that company grade officers spend more time in units. This ties in with the need to change personnel policies that draw company grade officers away for civil schooling and other assignments in the Institutional Force. Army XXI units are expected to have a higher leader-to-led ratio and may require leaders of greater experience, rank and education at lower levels than ever before. It is not higher rank, but greater experience that should be the answer. For example, a policy to retain company grade officers at battalion level or below for the first eight years of service could be tested to determine the effect on unit readiness.

b. The realignment of the institutional, unit and self-development training pillars should also examine the effectiveness and efficiency of allowing the conduct of traditionally institutional training at home installations. This might be done individually or in a group setting in an internetted format with the appropriate service school. The requirement for civilian schooling of junior officers should be reexamined to see if more time in tactical units is a greater benefit and civilian schooling deferred to the field grade ranks. These measures apply equally for active and reserve component leaders. Additionally, where today Title 11 provides active personnel to oversee and assist in the training of RC units, in the 21st century the program will evolve to the cross assignment of AC and RC personnel in AC and RC units to develop more consistent leadership experiences and a more compatible relationship between components.

c. The implications of a power projection doctrine have the potential to place brigade and division commanders in positions where they will be confronted with much higher level responsibilities and the requirement to make decisions with strategic consequences. For instance, it is possible that a brigade task force commander may be the land component commander for a limited period in an early entry operation and not unusual for a division commander to be in such a situation. Leader development programs and exercise scenarios should take these situations into account.

d. The role of civilians in a leadership capacity in Army XXI reinforces the need for continuing and enhancing civilian leader development initiatives including the intern program, core leader development training and cross-functional training in such capstone programs as acquisition, installation and information management.

6–5. Summary

In what could become a tumultuous period internationally and in which the Army is in an epochal transition between industrial and information-age military operations, maintaining doctrinal relevance will be its greatest intellectual challenge. The transition to Army XXI will drive requirements to be more functionally than branch oriented. A closer cooperation between combat developers, materiel developers and industry in the battle labs has the potential to accelerate the requirements determination process. The acquisition and training of civilians, soldiers and leaders of all types and components able to maximize unit effectiveness in Army XXI operations will require changes in cold war personnel policies and a commitment to focus on unit readiness. The potential for civilians and contract personnel to be deployable members of the Army XXI EAC organizations will require a thorough revolution of civilian personnel acquisition, distribution and training policies.

Chapter 7
Generate And Project The Force

The core processes comprising this capability are:

Tailor, Mobilize and Project Land Power
Support Organizational Training

FORSCOM is primarily responsible for these core processes. In defining the force generation and projection core capability it was said that in a power projection doctrine it would be the operative capability by which the Army will be measured. In terms of the four institutional core capabilities, generating and projecting the force must be first among equals. If it can be done rapidly and effectively the battle may be won without firing a shot; if not, the consequences can range from strategic embarrassment to military disaster. The importance of joint operations and the availability of adequate air and sea lift to the force projection function cannot be overemphasized. In discussing the processes comprising this capability it is convenient to consider Tailor, Mobilize and Project Land Power in terms of tailoring forces, mobilizing and demobilizing forces, deploying and re-deploying forces and providing support for organizational training.

7–1. Tailor Forces

To support Army XXI operations, the force generation and projection core capability will be broadened and strengthened to expand the Army's ability to project power and fully integrate the generation of deployable units. In the 21st century these broadened responsibilities may be collectively executed in a single, multifunctional MACOM. During the Cold War, deployments were planned mainly to reinforce and sustain large forward deployed armies in Europe and Korea. Force generation efforts were directed toward mobilization on a prearranged timetable with movement of units to air and sea ports of embarkation. Forward deployed ASCC were prepared to receive and support arriving units. Operation DESERT SHIELD was to change that system through the necessity of having to deploy the theater army reception and support capabilities. The deployment succeeded because of "can do" improvisation by Army leaders and soldiers and an enemy that chose not to interfere.

a. In the 21stcentury era of total power projection, transition to

the DESERT SHIELD model will have been completed. One major, multifunctional command may be responsible for force generation and projection. Success of the deployment must not be left to improvisation and the action or inaction of the adversary. The ASCC, currently part of the Institutional Force, will function as Army component command for the combatant commander. In the context of the present NMS, there will be at least two ASCC headquarters, one for each MRC. Given a power projection strategy, the theater army and the corps headquarters roles must be reexamined, particularly as regards combat service support responsibilities. In considering the consequences of split-based operations, the distinction between TDA and MTOE organizations begins to blur; in Army XXI, differences will be transparent, and the ASCC may well be organized under an MTOE as part of the Operational Force. As a deployable headquarters, the ASCC will be focused on contingency planning, mobilization and exercises. It will be manned and equipped for early movement and will likely have a standard (MTOE) organization.

In the transition period leading to Army XXI of 2010, a forward deployed ASCC such as USAREUR could assume an operational posture as 7th Army, transferring non-operational theater responsibilities to 21st Theater Army Area Command (TAACOM), which will be made up of largely, if not totally, institutional organizations. If forward deployment is further reduced, these commands could become CONUS-based ASCC as required. In Army XXI a minimum of two geographical ASCC will exist, one aligned with U.S. Atlantic Command and a second with U.S. Pacific Command (Fig 7–1). These ASCC, as part of the Force Generation and Projection Command(s), will be responsible for tailoring force packages for deployment based on requirements of the combatant commanders. Upon deployment of an ASCC, residual force generation functions would be coordinated in CONUS by the parent command. The process will be similar whether the requirement is for war or SASO.

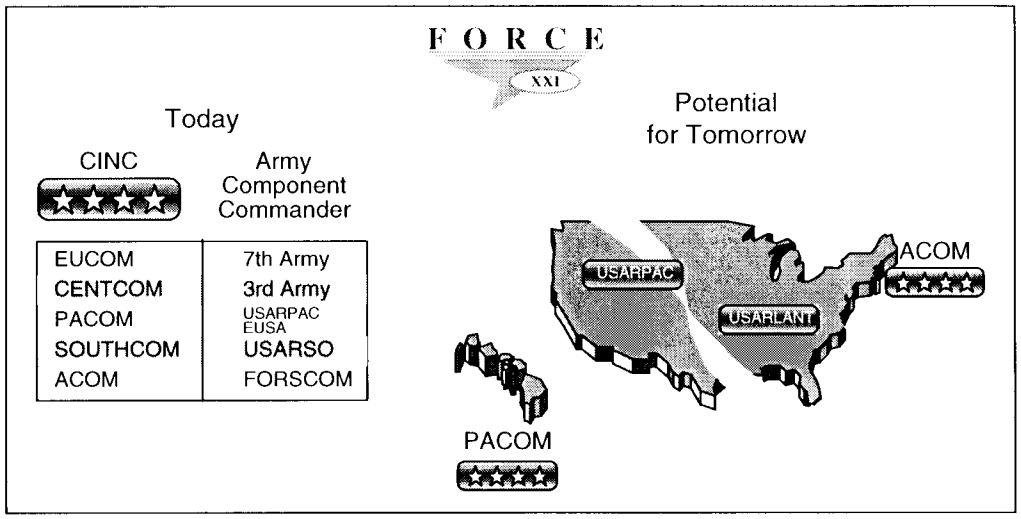

Figure 7-1. CINC-Geographical ASCC Relationships

b. In striving to get all it can from every unit in Army XXI, the Army must transform the concept of a Total Army from rhetoric to reality. During the latter years of the Cold War much was done to build RC readiness. Roundout brigades were given the same priority for resources as their AC parent divisions. The Capstone Program put most RC units into wartime chains of command according to the several major OPLANS and for the first time gave RC soldiers a sense of being on the team. RC organizations deployed for major exercises like REFORGER and TEAM SPIRIT. Experience in Operation DESERT SHIELD/DESERT STORM gave both vindication and disappointment to believers in the Total Army. After initial uncertainty, a partial mobilization was ordered and large numbers of RC units and individuals deployed to the Persian Gulf, where they performed uniformly well and generally on a par with the active Army. On the other hand, active divisions deployed without their roundout brigades and some of Third U.S. Army's primary capstone support organizations were not deployed.

Although RC participation in the Cold War exercises and their proven contribution in the Gulf War have begun to instill confidence in active Army commanders that RC units can perform their missions when mobilized, there remains a lack of understanding about the RC and a lingering perception that full reliance on the RC is risky. In 1999 RC end strength is projected to be 54% of the total force and by 2010 may well be greater. Army XXI cannot afford to have the majority of its forces underutilized in terms of either operational or budgetary considerations. Continued and enhanced mutual confidence across all Army components is imperative to the success of the force generation and projection process, built on principles such as:

(1) Optimize the force generation potential of the National Guard

Bureau (NGB), US. Army Reserve Command (USARC) and other RC general officer commands

(2) Assign responsibility for RC training assistance to the Force Generation and Projection Command

(3) Assign responsibility for RC unit readiness to the Force Generation and Projection Command through the RC chain of command

c. In Army XXI the line that separates the components of the Army may become much fainter and perhaps even erased. The relationship between the active and reserve components will be built around their similarities rather than their differences. Title 10 and Title 32 requirements must be fully understood by all components to ensure the unique strengths and capabilities of each component are fully leveraged and to ensure complete integration of the active, ARNG, USAR and DA civilians into the Total Force.

d. In Army XXI the CONUSAs will continue to perform the responsibilities of training and readiness oversight of the Reserve components. Additionally, the CONUSAs will assume an expanded force generation charter, such as mobilization and demobilization planning and execution, to include preparation for overseas movement (POM) of RC units and personnel. The CONUSAs would be assisted by appropriate ARNG commands and the newly designated USAR Regional Support Commands (RSC). Mobilization and demobilization will require extensive environmental, safety and health planning.

e. The ready availability of both the CONUS-based ASCC and CONUSA headquarters will provide a greater opportunity for these commands to assist in the pre-mobilization training of their Time Phased Force Deployment List (TPFDL) units. Post-mobilization training assistance would be completed when necessary by the Regional Training Brigades (RTB) and Field Exercise Brigades (FEB) under the supervision of the Force Generation and Projection Command through the CONUSAs. To accomplish effective inter-component planning and execution of these functions will demand seamless information management systems for training, mobilization and personnel administration, one of the most important priorities of Army XXI operations. The experience of DESERT SHIELD/DESERT STORM also had much to do with the drafting and implementation of Title 11 which was instituted to ensure RC units received the necessary AC assistance in achieving training and readiness standards. This program assigns significant numbers of AC personnel to assist in RC training. In the 21st century this program will evolve to a more integrated cross assignment of AC/RC personnel in AC/RC units, which will do much to foster even greater confidence across all components and at the same time provide for routine contact among those units.

7–2. Mobilization and Demobilization

a. Throughout the Cold War, mobilization to execute USAREUR's OPLAN 4102, plus the possibility of concurrent hostilities in Korea, was planned much on the model of World War II. It was expected that if the Soviet-led Warsaw Pact attacked North Atlantic Treaty Organization (NATO) forces, full mobilization would quickly be directed by the President. Full mobilization meant that all of the ARNG and USAR TPFDL units would be mobilized and deployed as required by the CINCs. For most RC units that would have entailed prolonged periods of post-mobilization training and issuance of additional equipment and personnel fill from the Individual Ready Reserve (IRR) and/or Selective Service. Units could be deployed when they reached a Command, Control and Communication (C3) readiness category if necessary.

b. Events since the end of the Cold War have indicated that although mobilization can be readily invoked by the National Command Authority (NCA) as in Operation DESERT STORM, the scope and magnitude of the use of reserve forces will most likely be less than that envisioned to deal with a Warsaw Pact style threat. Although such a scenario must remain a possibility, smaller scale mobilization is more likely for the Army XXI. It is essential that Army leaders engage public affairs to create a climate where necessary community support and acceptance can be initiated and sustained through a series of PA programs.

c. The issue of RC accessibility has nearly been resolved. Congress has given the President authority to call up the Selected Reserve for 270 days. However, that authority does not include the important consideration of access to the IRR. The Army's ability to perform its missions has been diminished by force drawdowns and is more than ever dependent upon RC participation, especially for combat service support. So it is probable that, if the NCA and the Congress direct military intervention, it will be with RC participation, Institutional Force organizations and contract support as well-the Total Force! Recent operations in Rwanda, Haiti and with the peacekeeping force in the Sinai have all included RC participation, primarily on a volunteer basis.

d. Army XXI operations will increasingly place heavier reliance on RC. Accessibility of RC units and IRR must be assured for both war and SASO, not by the hope that sufficient volunteers will come forth, but by public recognition that when power projection becomes necessary, a limited mobilization will frequently be directed. That change in public acceptance will have to be built over time and will require Army leaders, and more importantly, leaders in the ARNG and USAR, to make the case in their communities and with members of Congress and through the media to the American public. The role of the CONUSAs in taking responsibility for mobilization planning and execution will be of value in seeking this commitment.

7–3. Deployment and Re-deployment

a. In the Army XXI era of total power projection, responsibility for deployment will no longer stop at the water's edge. The Force Generation/Projection command will become Department of the Army's executor for all generation and deployment of forces into the theater of operations. The deploying ASCC will include both an Army component of the combatant command for operational matters and an extension of the Force Generation and Projection and Force Sustainment MACOMs to insure a seamless flow of deploying units, reception of replacement units and personnel and forward coordination of sustainment operations.

b. In taking responsibility for the theater armies and their deployment into overseas theaters, the Force Generation and Projection MACOM's command and control will be facilitated by having responsibility for strategic communications links connecting the sustaining base and the theater of operations. Consideration should be given to aligning a force projection signal command and deployable signal brigades with each theater ASCC for this purpose.

c. As executor of the Army's deployment function, the Force Generation and Projection command(s) would have primary Army cognizance over military traffic management. The U.S. Army MTMC, currently the Army component of U.S. Transportation Command (TRANSCOM), is an Army MACOM reporting to HQDA. Under this concept, to support the deployment of Army XXI operations and to facilitate sustainment of deployed forces, MTMC could: (a) become a major subordinate command of the Force Generation and Projection command; (b) form the nucleus of a separate Force Projection command; or (c) remain the Army component of U.S. TRANSCOM. This devolution of responsibility is consistent with the force generation and projection core capability and would create a more direct linkage between the Force Generation and Projection command(s) with U.S. TRANSCOM which is responsible for strategic lift necessary to move and sustain deploying units. Consideration should be given to war trace all reserve component units with MTMC missions to enhance readiness and interoperability.

d. In re-deploying forces, the close relationship between the Force Generation and Projection command and the ASCC will expedite planning for return of forces to CONUS, or in the event of a requirement to re-deploy forces to another theater of operations, to facilitate coordination of the movement of re-deploying units to overseas air or sea ports of debarkation and the arrival of airlift and/or sea lift assets to effect the re-deployment.

e. During deployment and re-deployment it is essential that environmental planning is adequate and that host nation environmental requirements are respected, mission permitting.

7–4. Support Organizational Training

a. Training in support of full-dimensional operations, whether conducted in the institution, in the unit or as self-development by the individual soldier, will have as its ultimate objective unit mission readiness. In an Army oriented on enabling and empowering leaders and units, effective organizational training will be the primary determinant of unit readiness. Of course, organizational training can only be effective if conditions are carefully monitored and controlled. As indicated earlier, personnel turbulence is a major impediment to unit readiness. Turbulence is also a major detractor to effective organizational training.

b. The training environment experienced for much of the Cold War period, in which units could freely use both close-in and major training areas for small and large unit training exercises, will be quite different by 2010. The equipment-intensive field training of that era will be reduced in scope and frequency. Such training will still be necessary for units at battalion and below to practice the team skills for high tempo Army XXI operations. For these units, field training will remain essential for both AC/RC units and civilian augmentees. However, the number of installations on which major field exercises for battalion and higher organizations can be conducted will be reduced. In addition to CTC training, alternative concepts must be developed and resourced to enable battalion and brigade level units to train, subject to proof of probability, to attain Army standards and improved warfighting effectiveness.

c. Leveraging information will have significant impact on the type of training units will require as well as on how future unit training will be conducted. Throughout the experimentation period that will extend through the remainder of the 20th Century, smaller tactical units will undergo frequent retraining as the tactics, techniques and procedures attendant to learning how digitization will be used by weapons crews and small units becomes better understood. At first, unit and individual training on digital equipment may be quite perishable. New training techniques and more frequent training may become necessary both in the training base and in units. As the implications of battlefield digitization grow more familiar, unit training techniques will become routine, but in the transition period digitization itself may be a significant training task.

d. Information processing will also bring benefits in the way unit training is performed. Army doctrine will be internetted and available via the doctrine digital library (DDL). Active and reserve installations will be internetted and interconnected. Databases will be available to address lessons learned from previous operations and exercises. Service school instruction will be available to provide up to date doctrinal insights at training installations. The explosion in training devices, simulators and simulations now being experienced by many units will have gone beyond what can now be produced. Virtual, live and constructive simulations will be interconnected across the full range of military operations. DIS will connect geographically dispersed units for training and mission rehearsal. An example is the Synthetic Theater of War (STOW), a joint experiment to replicate a virtual theater battlefield that will allow the Army to exercise a level of joint operations never before achieved in exercises and simulations, and to investigate a panoply of sustainment functions through technology not achievable through field exercises.

e. The institutional integrating MACOMs will have major roles in bringing about the excellence in organizational training that will be required to support Army XXI operations. Much of the organizational training will be joint training, for which the Force Generation and Projection command(s) will have responsibility. Advanced doctrine and new initiatives in training developments must be provided by the Force Development command. The optimum conditions for unit training and AC/RC training integration must be accomplished by the Force Generation and Projection command(s). The development and procurement of devices, simulators and the internetting capability must be provided by the Force Sustainment command.

7–5. Summary

Generating and projecting the force is the central overarching capability the Institutional Force must have in order to directly support Army XXI operations. It is rooted in modern power projection installations, primarily located in the United States. Generating and projecting the 21st century force will be directed and coordinated by an integrating multifunctional MACOM whose operational theater armies will extend the force generation and projection process into the theater of operations as the Army components of the unified combatant commands. A significantly enhanced world-wide communications system will be necessary for command and control of force generation and projection. This capability will more than ever before be dependent on the full integration of active and reserve components. AC/RC integration will be enhanced through greater empowerment and resourcing of the reserve components and by fostering a greater spirit of cooperation and mutual trust among all components of the Total Force. With greater dependence on the RC, mobilization will become a more routine aspect of operational deployment in both combat and SASO situations and will be coordinated by the RC command structure and seamlessly integrated with the deployment function. The deployment and support of force projection could be facilitated and strengthened by incorporating military traffic management into the Generate and Project the Force core capability. In preparing forces for military operations, information technology will have a significant impact on support of organizational training. The interconnecting of virtual, live and constructive simulations will counter-balance the reduced scale and frequency of major field exercises. The inter-relationship of the foregoing functions will enable the Institutional Force to support the generation and projection of Army XXI Operational Forces.

Chapter 8
Sustain The Force

The core processes comprising this capability are:

Acquire, Maintain and Sustain Equipment
Maintain and Sustain Land Operations
Acquire and Sustain Infrastructure
Operate Installations

The *Acquire, Maintain and Sustain Equipment* process is currently conducted by three primary agencies. Acquisition is a Title 10 function and the responsibility of the AAE in Office of the Secretary of the Army, who is supported by a system of Program Executive Officers (PEO) and Program Managers (PM) through a streamlined decision and resource distribution process. The AMC and Army Medical Research and Materiel Command (AMRMC) acquire secondary items and selected end items, generate and apply technology and sustain equipment within their respective core competencies. The AAE is provided matrix support by AMC, AMRMC and Space and Strategic Defense Command (SSDC) in areas such as procurement and legal engineering. The *Maintain and Sustain Land Operations* process, in the context of institutional support, includes the Supply and Maintain Title 10 functions. AMC and AMRMC, supported by the Defense Logistics Agency (DLA), have responsibility for these functions which are executed through a system of arsenals, plants, depots, research development and engineering centers, laboratories and research activities. In addition, contracting through commercial sources may extend to the general support level in theater operations. These functions are also performed at the local level on most of the installations controlled by other MACOMs. Maintaining and sustaining land operations includes, in its institutional application, a variety of services that support both the sustaining base and the theater of operations. These are, among others:

transportation; personnel services; force protection; combat health support, environmental, safety services; information management; criminal investigation; intelligence; and legal and chaplain services. Responsibility for provision of most of these services rests with one or more of the functional MACOMs or FOAs discussed in Chapter 4 and in an operational theater may be conducted by Operational Force units. *Acquire and Sustain Infrastructure* is a process in which another functional MACOM, the U.S. Army Corps of Engineers (USACE), plays a primary role. The USACE is also responsible to the Secretary of the Army for the planning and execution of civil works. As the Army enters the 21st century an emergent approach that may be employed by the USACE for their diverse responsibilities embraces a hub-satellite concept where many functions will be supported on a regional basis from some central location. A fourth process, *Operate Installations*, interfaces somewhat with the previous process. This process is currently conducted by the proponent MACOMs with central policy direction provided by the Assistant Chief of Staff for Installation Management (ACSIM). Operating installations has the potential for hub-satellite management in the 21st century, an approach already under analysis in various forms by several of the MACOM commanders. Although not a core process, the movement of supplies and equipment for military operations is part of both the force sustainment and the force projection capability. Sustainment begins in the CONUS industrial base with critical linkages between the Army and DLA.

8–1. Acquire, Maintain and Sustain Equipment

a. Materiel acquisition is a process in which continued streamlining will be needed. The initiatives taken to date such as technology insertion, horizontal technology integration, greater dependence on COTS/NDI and the battle lab process of early experimentation will help to shorten the materiel development cycle. Policies, regulatory guidance and legislation on operational testing must be changed to better support acquisition of COTS/NDI. The current operational testing approach is too costly and time consuming.

b. The Army has recognized that the development of major new equipment is very expensive and has chosen to balance new programs with technological upgrades and modification of existing systems. The current acquisition climate of "no new starts" cannot prevail indefinitely. The imbalance of the operations and RDA accounts will eventually be redressed and when that happens the lessons of the present must be applied to accelerate the development of new major systems. AMC's acquisition improvement and efforts to reduce procurement administrative lead time are vehicles that will assist in that objective. The Institutional Force will continuously modernize weapons systems employed by the Operational Force to ensure our soldiers have continuous battlefield superiority.

c. Acquiring, maintaining and sustaining equipment, to include research and development, has unique environmental, safety and health requirements. These requirements range from improving the Army's pollution prevention posture, developing new procedures for maintaining and sustaining equipment that reduces or eliminates pollution, to ensuring that personnel are not exposed to hazardous chemicals and that equipment is safe to operate.

d. Initiatives to consolidate research, development and engineering by functional expertise within AMC also have promise. For example, in a recent initiative, consistent with the Force XXI redesign principle of reducing MACOMs, the Army chose to consolidate the Information Systems Command (ISC) systems engineering and systems development activities with the Communications-Electronics Command (CECOM) of AMC. This concept empowers CECOM to develop all tactical, theater and strategic communications systems. Similar evaluation and testing consolidations are under consideration by the Office of the Secretary of the Army (OSA) and should be encouraged.

e. The downsizing and consolidation of the defense industry and the focus on preserving the few unique strategic technologies and production processes that are most vital to the warfighting requirements of Army XXI mean closer cooperation among the Army, industry and academia. AMC's vision for the future includes putting strong emphasis on technology generation and application, which includes several of the initiatives outlined below. The recent symbiosis of Advanced Technology Demonstrations (ATDs) and AWEs is a start. In conjunction with the Advanced Technology Concepts and Technology II (ACT II) Program, which solicits ideas from industry and academia, the Army has sent a positive signal that industry partnership is truly desired. At present the near term funding for these programs is quite low. To attract the best from industry, either the near-term return or the probability of long-term production must be higher. The Federated Lab concept, Small Business Innovative Research (SBIR), grants, contracts and Cooperative Research and Development Agreements (CRADAs) are additional means to solicit ideas from industry. The focus should be on near-term return in this case, because the Research Development Test and Evaluation (RDT&E) account is proportionately better funded than procurement and because the probability of going to production is difficult to predict. Consideration should be given to increasing Concept Experimentation Program (CEP), AWE, ATD and ACT II funding with savings gained from RDA streamlining.

f. Another aspect of insuring that the unique technologies contribute to developing the systems that are most vital to Army XXI operations is to focus applied research on Army XXI requirements. This focus has been enhanced by increasing the role of the combat developer in Science and Technology Objective (STO) reviews, ATD plan approval and the seats on the Army Research Lab board of directors. There is a need to reengineer the requirements process in a way that supports rapid acquisition where it makes sense, yet allows for a long term research vision. This is particularly important at a time of constrained resources in order to get the most out of each RDT&E dollar. Accordingly, programs must be maintained whereby the combat developments community has a strong voice in establishing priorities for technology base Category 6.2 exploratory development. Insuring that early R&D efforts are directed at the most urgent Force XXI requirements will save money and provide consistent connectivity with the ATD/AWE process that is to follow.

g. Total Package Fielding (TPF), in accordance with the Army's "first to fight" policy, will be an important part of equipping Army XXI organizations. The fielding of the battlefield digitization suites needed to equip Task Force XXI, the first Army XXI division, will be the first large scale information-age example of TPF. To cope with the wave of equipment modernization that swept over the Army from 1978 to 1986, an extensive TPF documentation system was established. There are presently eight major plans, submissions, memorandums and agreements designed to regulate the force modernization process. Compliance with these directives is a burdensome staff process that affects both the distributor and the recipient of new systems. As the equipping process for Army XXI matures, a thorough review of the Army modernization documentation system will be necessary. It is possible that the TPF system designed to support the Cold War Army can be streamlined to better and more efficiently serve Army XXI, to include allowing contractors to serve as the distribution agent for the process.

8–2. Maintain and Sustain Land Operations

This core process is mainly driven by the institution's total power projection organizing principle and the Operational Force's early entry and combat service support battle dynamics. It is the central process of the Sustain the Force core capability. There are several ways in which these dynamics are likely to cause fundamental alterations in how Army XXI operations will be sustained.

a. The relative decline in availability of overseas theater sustainment bases in Europe and the Far East, that have historically been the foundation of large force deployments, will remove or at least reduce the in-theater "head start" that logisticians have long depended on. The uncertainty about the future location or the magnitude of contingency operations that may be distant from the CONUS base or remaining theater bases complicates the problem. The implications of these conditions are that the entire logistics support structure may have to be deployable and stockages of supplies and equipment will initially be tailored to the tempo of the buildup of

operational forces in theater. There will be a fusion of what have traditionally been defined as strategic, operational and tactical levels of logistics into a continuous flow of sustainment from their sources into the theater of operations. In Army XXI these three levels of war will be internetted and simultaneous. The primary sustainment source will be the Force Sustainment Command, but will also include pre-positioned afloat materiel and the infrastructure of the objective area itself which may or may not be a friendly host nation. This continuum of force sustainment will be integrated into the "Generate and Project the Force" capability in which the theater army and all operational forces must flow into the objective area on a schedule regulated by the combatant commander based on the operational tempo.

b. To complement the theater army's force projection capability, a flexible theater-level sustainment support activity, the Logistics Support Element (LSE), will normally be deployed to the area of operations to coordinate and perform logistical support. Comprised of highly skilled and properly equipped AC and RC military personnel, DoD/DA civilians and private sector contractors, the LSE concept has been proven in Operation DESERT STORM through Operation Vigilant Warrior and will continue to support Army XXI. This is a example of the Institutional Force already addressed in Army doctrine, as the LSE is discussed as part of Operational Logistics in FM 100–7, Decisive Force: The Army in Theater operations.

Reliance on information age technology is already beginning to compensate for the lack of forward logistics bases in contingency operations. The Total Distribution Program (TDP) which employs a system of lap-top and microcomputers, automated radio frequency tags and tag readers accurately identifies shipment and status. Consisting of Total Asset Visibility (TAV), an automated compilation of stockpile and unit inventories, and Intransit Visibility (ITV), all supported by assured communications, logisticians in both the sustaining base and the theater of operations will know what they have, where it is and when additional assets will arrive. TDP makes possible split-based operations allowing operational and tactical logistics organizations, and personnel responsible for materiel management, to remain at home station to become the core, while a deployable element performs logistics operations in theater and accesses the supply system by satellite communications. The tradeoff for reduced logistical presence in theater is an increase in dedicated communications and automation to pass the consumption and utilization rates back for analysis. This approach results in faster requisition processing and fewer personnel being deployed. Additional initiatives, such as direct vendor delivery, aerial resupply from CONUS and doctrinal changes in the way we support will allow the size and number of stockpiles to be reduced.

c. In considering the strategic level of logistics that is primarily performed by elements of the Institutional Force, efficiencies are already being undertaken by AMC in both the supply and maintenance functions to reduce layering, improve response and save money. In both functions there is an effort to restructure to a national, Army-wide perspective. In supply operations that would capitalize on split-based operations and total asset visibility capabilities, the Army must more efficiently use Class IX assets and improve contingency planning and operations. Class IX utilization efficiency can be gained by improving the way we compute failure factors and conduct reliability, availability and maintainability analyses. In maintenance operations the concept of consolidating general support and director of logistics (GS/DOL) maintenance on installations, and GS/DOL depot integration at the national level will be evaluated. Furthermore, each of these concepts is also being evaluated against a contractor operated facility in terms of cost, readiness and contingency support. A related initiative, Integrated Sustainment Maintenance (ISM) advocates major changes to current Army sustainment maintenance structure and policy by integrating all sustainment maintenance activities under a single structure. Through balanced resource allocation, workload distribution and decentralized execution of maintenance work, repair capabilities will be maximized and use of available resources will be optimized. A proof of principle has shown that centers of excellence can be created on a regional basis to repair specified common items thereby maximizing efficiency and reducing costs to all installations. A follow-on demonstration will evaluate the merits of integrating sustainment maintenance across the entire Army at the national level. Responsibilities of organizations like the ARNG U.S. Property and Fiscal Offices and Combined Support Maintenance shops could be expanded to perform a wide range of base operations functions to provide regional logistics support. Another initiative that has proved successful is increased use of RC transportation, supply, maintenance and combat health support units to perform logistics missions at installation level. With a proportionately greater portion of military CSS units in the RC, this practice should be expanded in the future to the extent it is consistent with an RC unit's wartime mission essential task list and does not detract from RC readiness. This approach has funding implications and may necessitate a review of laws governing contracting and competition with the private sector. The overall concept of using RC units and facilities as alternatives to active general support or installation maintenance and contract support merits evaluation in terms of cost, readiness, contingency support and other factors.

d. The Maintaining and Sustaining Land Operations process includes a diverse set of services currently performed by functional MACOMs and FOAs. All of these organizations have undergone consolidations and downsizing in recent years. In general, each has one principal function and is somewhat vertical in design, extending from the departmental level down through other MACOMs and FOAs to the installation. Two functional MACOMs-Criminal Investigation Command (CIDC) and INSCOM-are a mixture of institutional organizations and operational units. Conceptually, Army XXI will be supported by a minimum of three multifunctional MACOMs, one of which, the Force Sustainment Command, may provide many of these and other services discussed below.

e. The training and sustainment of coalition forces on the battlefield or the support of allied forces engaged in SASO will require a united effort in the cost effective use of Army assets and security assistance resources. Future conflicts will be fought through combined or multinational operations, making it imperative for coalition and regional forces to acquire and train on sophisticated weaponry and tactics to upgrade their combat capabilities. The Army, in coordination with the U.S. defense industry, will continue to support friendly and allied ground forces through the provision of materiel, training and other logistics services to ensure that regional partners are able to fit in with Army XXI.

The services that will be addressed under this section and the primary agency responsible for the service are shown in figure 8–1. This represents only a partial listing of the most significant services provided by the Institutional Force.

Service	Responsible Agency
Personnel Services	Total Army Personnel Command*
Combat Health Support	U.S. Army Medical Command
Criminal Investigation	U.S. Army Criminal Investigation Command
Family Support	Community and Family Support Center*
Intelligence	U.S. Army Intelligence and Security Command
Legal Service	U.S. Army Legal Services Agency*
Chaplain Services	Chief of Chaplains

*denotes FOA

Figure 8-1. Services Responsibilities

(1) *General.* In seeking to comply with a charter principle and reduce the number of MACOMs and FOAs, one must recognize that all perform a necessary function. However, there are some general considerations that may be applied:

(a) The functional MACOMs and selected FOAs have a relatively high proportion of overhead to mission capability. They often mirror a large multifunctional MACOM like FORSCOM, with public affairs, chief of staff, directorate staffs, and so forth.

(b) The functional MACOMs have no special distinguishing characteristics that set them apart from FOAs; both report to HQDA and have the primary mission of executing policy.

(c) Redesigning selected functional MACOMs as FOAs would provide the opportunity to reduce MACOM overhead and more closely align supervision and policy direction with a HQDA Staff proponent.

(d) Selected missions performed by the functional MACOMs can be provided by other means such as commercial contract or privatization.

The remainder of this chapter briefly addresses the importance of these institutional services and what potential changes should be considered in planning how each will support Army XXI operations.

(2) *Personnel services.* At the departmental level overall responsibility for personnel services and management rests with the ASA(-MRA), and the DCSPER who discharges those responsibilities through several FOAs, primarily the Total Army Personnel Command (PERSCOM). ASA(MRA) is responsible for civilian personnel administration through Civilian Personnel Operation Centers, while field commanders have authority to hire, train and sustain civilian employees. Given the concept of a multi-function Force Sustainment MACOM in the 21st century, this entire function may be more expeditiously performed under a different construct. Personnel services such as replacement operations, mail services, casualty operations and strength accountability are performed by a theater army personnel command. Given the concept of the Army XXI deployable theater army, the personnel command will employ split-based operations to perform most of the services, relying on a home-stationed element as the core in a similar manner to the logistics model. The deployable theater personnel command would therefore be much smaller than at present. For this concept to be viable the split-based personnel services must have fully integrated data bases so that active, ARNG and USAR records can be accessed. Moreover, it will be necessary to provide services for DoD/DA civilians who will deploy into other theaters as members of LSEs and other activities. Integration and data base management will be the responsibility of the home-stationed element of the theater army personnel command, so that in the operational area component personnel management will be as transparent as possible. A merged PERSCOM, Army National Guard Personnel Directorate, ARPERCEN and, ultimately, the Civilian Personnel Operations Centers will provide centralized focus for all aspects of federal uniformed and civilian personnel management, but must accommodate recruiting and personnel management functions unique to the ARNG.

Personnel services at the installation level are currently conducted in a variety of places including the G-1, personnel service battalions and the director of personnel and community activities (DPCA). Regardless of the method of operation, it is critical that the personnel data bases described above, as well as the Defense Civilian Personnel Data System (DCPDS), be fully accessible if the Army's installations are to become fully capable power projection platforms. There have been various initiatives to conserve military manpower through civilianization of installation staff directorates, including the DPCA.

(3) *Combat health support, environmental and safety services.* The U.S. Army Medical Department (AMEDD) provides medical services to the force as well as to Army families, retirees and other entitlees. It has both an operational component that supports the Operational Force in war and SASO from the foxhole to the

CONUS sustaining base and an institutional component that operates the major medical centers and installation medical facilities. It is responsible for the Army's contribution to DoD's TRICARE managed care program. At present the RC comprises 70% of the Army's medical mobilization capability.

Despite the Army's efforts to capitalize on better doctrine, battlefield digitization and advanced technologies to reduce risk to soldier's lives, disease and non-battle injury and battle casualties will always be a fact of war. However, these casualties can be reduced with emphasis on safety, preventive medicine and combat stress control, health promotion and sound environmental planning. Along with prevention, a modern casualty treatment and evacuation system will be among the highest priorities of Army XXI. Combat health support systems for Army XXI will provide flexible, versatile, modular medical units to support the rapid deployment of a force projection Army, yet capable of supporting forward deployed forces. These units will be capable of operating in a split-based mode in order to support contingency operations and operations other than war. The medical force of the future will assure a medical presence with the soldiers, while at the same time providing state-of-the-art combat health support.

Safety is a form of preventive medicine that remains a command responsibility. For division and higher headquarters (G-staffs), the safety officer will be a member of the commander's special staff and the safety office will be a special staff section. For brigade and battalion organizations (S-staffs) not having an authorized safety officer, the commander will appoint a member of the S-3 section to perform safety functions as an additional duty. The designated safety officer will report directly to the commander on all safety matters. The safety officer for installation, garrison or other institution organizations will be a member of the commander's special staff.

(4) *Criminal investigation and law enforcement.* Criminal investigative functions are presently performed by CIDC which has both military and civilian personnel trained in criminal investigation. Most criminal investigation detachments (CID) are Operational Force organizations, deployed regionally under CID districts. Garrison law enforcement and security are local functions conducted under the direction of installation and activity commanders using a variety of operational and institutional military police (MP) units DoD civilian police and contract services.

There appear to be no unusual impacts on the performance of either criminal investigation or law-enforcement practices emanating from the Army XXI battle dynamics. There may be an increase in the requirement for law enforcement capabilities in the conduct of more SASO activities, but that will be reflected in tactical MP requirements. The leveraging information principle will improve the efficiency of both criminal investigation and law enforcement through the increased availability of information for background checks, unit status and other management efficiencies.

Criminal investigation requires complete investigative independence and absolute objectivity and integrity in the manner in which it is accomplished and in the oversight it receives. In addition to operational independence, these factors dictate that the organization performing this function have maximum control over its resources. As presently performed, the criminal investigation function is an existing example of the blurring of the lines between the operational and institutional forces envisioned for Force XXI. In normal operations, the CID TOE force performs an institutional role at Army facilities around the world. These same CID forces deploy with and provide support to Army operational forces during SASO or war.

Although garrison law enforcement/security will continue to use a variety of operational and institutional military police assets, the conversion of traditionally TDA military assets to deployable TOE organizations to increase warfight/SASO capabilities will enhance the utility of this force across all spectrums of conflict while further blurring the distinctions between MP operational and institutional; forces. MP soldiers who remain in TDA slots must be prepared to deploy as individuals or as fillers for deploying MP units. MP will continue to be called on to rapidly and seamlessly transition between garrison and tactical environments. MP training in Army XXI must, therefore, produce skilled soldiers capable of performing the entire breadth of missions in wartime, contingency and peacetime environments. Commanders, to support SASO, must be adept at task organizing and operating with teams from a variety of installations. Dependency upon the reserve components to backfill deploying installation MP assets will increase, requiring solid peacetime training and operation alignments to ensure continuity of operations when hand-offs are effected.

(5) *Family support.* Family Support is an important personnel service that is mainly executed at installation level for the active component and at the state and reserve support command level for the reserve component.. Family support efforts that have been instrumental in building a quality Army will continue under Army XXI. At the departmental level these efforts have been coordinated by the U.S. Army Community and Family Support Center, an ACSIM FOA, the National Guard Bureau and USARC. As the Army transitions to Army XXI, the requirement for viable family and MWR programs will remain. Since families, along with soldiers, civilians and retirees, are central to everything the Institutional Force does, installations and reserve component headquarters must implement effective family support policies and programs.

(6) *Intelligence.* The Army XXI organizing principles will have striking impacts on the gathering, processing and disseminating tactical and strategic intelligence in all its forms, as clearly outlined in TRADOC Pam 525–5. Command, Control, Communication and Computers (C4) and intelligence will become inseparable as the combination of intelligence as a product is associated with the means by which it is collected, processed and disseminated. In Army XXI operations the commander will drive intelligence requirements and intelligence will be fully integrated into force projection operations before, during and after deployment. Split-based operations will probably be a greater battlefield force multiplier for military intelligence (MI) operators than for any other battlefield function. Much of the collection management, and some of the collection, as well as the processing and interpretation, can be done by the home-stationed core by means of advanced command, control, communications, computer and intelligence (C4I) linkages resulting in less need for forward deployed military intelligence units and personnel. This provides the opportunity for a much greater participation by RC soldiers in performing intelligence missions in tactical units and in the institutional sustaining base.

The Institutional Force's primary intelligence operator is currently the U.S. Army lNSCOM, a MACOM reporting to HQDA. INSCOM supports the combatant commanders employing regionally oriented theater MI brigades, four of which are presently forward deployed. Its subordinate commands and FOAs provide a variety of other intelligence services. In this respect, military intelligence is part of not only the "Sustain the Force" capability, but the "Generate and Project the Force" as well.

There is presently a national debate on the role of America's entire intelligence community directed mainly at the Central Intelligence Agency (CIA), but which may eventually involve DoD and the intelligence activities of the military departments. Meanwhile, as the number of theater armies is reduced, theater MI brigades can also be reduced. INSCOM is currently consolidating five theater military intelligence brigades into two regionally focused, force projection brigades. That will not necessarily reduce the regional intelligence requirements, but economies are being made. Conceptually as the ongoing debate on how to manage intelligence at the national level is resolved, and the more clearly defined operational force requirements for strategic intelligence converge, the residual institutional intelligence structure will be less, perhaps reduced to an SSA of HQDA.

(7) *Legal and chaplain services.* The Army XXI organizing principles do not suggest significant modifications will be necessary in the discharge of these professional functions. Both will have their own unique effects and benefits upon Army XXI. Both are relatively small increments of Army end-strength. Still, economies in operation will be necessary. On the primary power projection installations where rapidly deployable forces are stationed in significant numbers, full representation of professional services will be required to meet the needs of commanders, soldiers and families. On many other installations and in other institutional activities, however, a regional approach perhaps even consolidated Defense-wide, may become a more widespread practice. Conceptually Chaplain services can be augmented by information and televideo services. The increased op tempo of future operations will increase the stress on soldiers, their families and leaders alike. The chaplains' physical presence for soldiers and their families in times of stress, and for leaders under the stress of command, is the key role for this personal staff officer of the command.

8–3. Acquire and Sustain Infrastructure

a. The term "infrastructure" provides the conceptual context for an integrated approach to real estate, terrain and facilities; it includes the interrelationships, multifunctional utilization and role of utility services for land and facilities. One important challenge for today's Army is to forecast accurately what facilities will be needed for the Army of 2010. At present it seems prudent to divest both the sustaining base and overseas bases of any unneeded real property and facilities and to consolidate forces as much as possible to conserve operation and maintenance appropriations (OMA) dollars. But in so doing, the Army must hedge against the probability that at some future date a force expansion will necessitate additional real estate and living space. An objective for Army XXI should be to consolidate as much as possible on the Army's best sustaining base installations, with the recognition that overseas bases will likely be returned to host nations should force withdrawals continue.

An important consideration is to acquire and sustain a capable information technology infrastructure to complement the multifunctional utilization of land and facilities. Such an infrastructure represents the CONUS and, to a limited extent, host country platforms required for strategic force projection communication and automation.

b. Regionalization is rapidly surfacing as a tenet of Army XXI. Interservice regional cooperation is a worthy objective, but may be difficult to achieve. Regionalization of Army activities may be a more achievable short-term goal. The AMC and FORSCOM hub and satellite installation concept, similar to the Area Support Group (ASG) concept in USAREUR, is one example of a regional approach to efficiency. Another is the grouping of diverse elements of different MACOMs on a centrally located military installation, or into a single DoD or DA leased facility. The regionalization of civilian personnel administration is also generating economies and efficiencies. In an effort to restructure and modernize the management of civilian personnel, use of DoD's functional process improvement (FPI) represents improvement in current business processes. Working jointly with the other military services, many civilian personnel management activities are being conducted in an electronic environment. These FPI are a bridge to a radical enterprise transformation of the current civilian personnel management function to a highly modernized and efficient organization throughout the Army.

c. Force projection facilities, and the Army Strategic Mobility Plan (ASMP), are fundamental to Army XXI. With increased deployments and fewer overseas bases, the need for temporary facilities to be occupied during combat and SASO operations is increasing. Host nation infrastructure is the greatest constraint to strategic deployment of U.S. Forces. A fundamental Title 10 responsibility in the theater of operations is to acquire real estate and, when necessary, provide facilities in support of the Army and Air Force (beyond its ability to support itself). Many foreign areas have little infrastructure which can satisfy Army needs. What quality infrastructure that does exist may be necessary to the host nation's economy and not wholly available to support military operations. Airports, seaports, roads, bridges, water, power and fuel facilities and physical security may need upgrading to meet military needs. Basic environmental standards must be maintained. The expertise to plan, design, negotiate, acquire services and execute these needs rests largely with the Army's skilled civilians, and, for contracting for transportation services, with MTMC, both military and civilian. Although Army tactical forces have always been able to operate from tentage or by occupying whatever buildings are available in the area of operations, the assumption has usually been that the host country will offer facilities out of gratitude for U.S. assistance or, in the case of a hostile environment, that privation is to be expected and that the enemy's facilities will be confiscated when available. There may be SASO situations in which most of these conditions do not apply and in which deploying forces must either bring their own semi-fixed facilities or be prepared to negotiate the use of local facilities. Considerations for both eventualities will be a part of Army XXI operations planning.

d. To underscore the importance of information technology to force projection and the associated sustainment of the C4I infrastructure on sustaining base installations, the Army Signal Command (ASC), formally the operational side of the ISC, will be a major subordinate command of FORSCOM. ASC EAC communication and automation processing is connected, on-line, and able to sustain the high rate of information transfer required for high tempo Army XXI operations.

8–4. Operate Installations

a. In Chapter 1 a historical profile of TDA Army budget expenditures was presented. It showed that base operations had received the largest share of the total TDA budget of the eleven categories considered, approximately 20% or $7 billion annually over a 17 year period, and that base operations was among the least "malleable" in terms of flexibility in spending patterns over time. Allocation of base operations funding is included in all five of the Army's major budget accounts, but until the ACSIM was established on the Army Staff there was no oversight of these expenditures from the installation perspective. At MACOM level both TRADOC and FORSCOM have aggregated base operations management functions under a single deputy chief of staff to achieve more focus and efficiency. In the Army XXI Institutional Force these and other efficiencies will likely be exploited, to include having fewer MACOMs responsible for base operations, and within MACOMs by designating primary installations responsible for the management processes on two or more sub-installations, that is, the hub and spoke concept.

b. Management efficiencies can help reduce costs, but major cost reductions can only be made by operating fewer installations and leased facilities. If the Base Realignment and Closure (BRAC) process is resumed, a maximum effort must be made to consolidate and close surplus installations, not realign activities. In some metropolitan areas there are multiple Army activities all in separate leased facilities. Examples are recruiting activities, criminal investigation detachments, readiness groups and USACE activities. If studies show it can result in less cost, these could and should be consolidated in fewer Army or DoD facilities or preferably relocated to military installations, active or reserve components. The RC has unique facilities that are in place in thousands of communities in all 54 states and territories. In the ARNG each state possesses the installation support structure to provide capabilities from contracting, maintenance and warehousing operations, to mobilization, environmental engineering and family support that could be expanded to provide support on an area basis. The Army Reserve, through its USAR federal installations and ten Regional Support Commands, also possesses significant support capabilities in all aspects of operations services. Moreover, the RC CS/CSS MTOE structure represents a unique source for quality support services at a fraction of normal costs.

c. To support the uninterrupted flow of deploying units, priority

should be given to upgrading the Army's strategic installations, or recently approved power projection platforms (PPP), beginning with those upon which the active divisions are located. Installations sponsoring high priority support units (power support platforms (PSP)), as well as depots, railheads and air/water terminals with sustainment responsibilities, should also be targeted for increased infrastructure funding. A vital area of improvement for PPPs and PSPs will be upgrade of C4I infrastructure. This capability will be needed to support internetted unit training and exercises. In the transition to war, modern C4I, provided by the institution, will support the mobilization and deployment processes, and during operations C4I will be required for split-based operations. In the case of RC combat support and combat service support units, it will often be possible to assemble and deploy from local armories or reserve centers. Information technologies will allow many support functions to be performed at remote locations or at home stations. This will reduce deployability requirements, provide continuity and reduce manpower needs. Split-based operations will assist in achieving a continuum of operations while maintaining the connectivity between forward and rear elements.

d. While Army XXI installations are described as power projection platforms, and many will fulfill that mission, they must also continue to be communities of excellence. This is one case where fewer can and must be better. The Army has proven that centralized management and decentralized execution of installation operations works. But to create some of the efficiencies needed at installation level, resourcing must be as direct as possible with minimal pass through or reallocation by intervening levels of command.

e. In FORSCOM's Installation XXI Test, four concepts are being evaluated that can potentially provide more effective and efficient installation operations:

Interservice and regional cooperation
Hub and satellite installations
Reengineering business practices
RC off-post support

Outsourcing for goods and services has already resulted in savings on installations and should be continued where it makes good business sense. Privatization of areas like utilities and family housing provides opportunities to streamline, leverage technology, improve quality, deliver goods or services quicker and help make better use of resources. The installations conducting the studies and implementing the initiatives will be key to the success or failure of the effort. The Commercial Activities Program has been used to systematically review commercial type activities to decide whether to continue performance in-house or by contract. There is still more to be done in this arena. In the future it may be advantageous to contract regionally, or even Army-wide to obtain more favorable prices through increased market size and competition. The concept of leveraging reserve component capabilities, in a myriad of areas, in support of installations needs to be considered and evaluated as a cost effective alternative to privatization.

f. Private industry support is embedded in many of the Army's functions today. Army training, maintenance and other logistics functions, research and development, manufacturing and base level services are all carried out with substantial industry support. The Army should take the broadest possible view of outsourcing, one that explores innovative partnerships with both private enterprise and the public sector, that is, state/local governments, other DoD/Federal entities and non-profit agencies. Outsourcing is a powerful tool which the Army has available to reengineer, streamline, become more business oriented and ultimately save resources. Outsourcing and privatization strategies must fully support the future force, a quality, trained and ready, fully modernized Army for the 21st century.

8–5. Summary

The sustainment of Army XXI operations will be the key to success in war and SASO, just as sustainment has always determined the outcome of military operations throughout the history of warfare. To provide the weapons of the future and for the U.S. Army to remain dominant on the battlefield, applied technology must be rapidly translated into overmatching battlefield capability. To accomplish that feat under continued resource constraints will require unprecedented cooperation between the Army and industry, and new methods of materiel development. The concept of total power projection will necessitate new concepts of power projection logistics. These will involve military, civilian and contract logisticians to support Army XXI operations from the installation into the theater, using split-based operations and employing Integrated Sustainment Maintenance to accomplish more at lower cost. The provision of services to both the operational theater and the sustaining base will be empowered by greater reliance on internetted installations and activities, performed more efficiently by fewer MACOMs and with primary concern for the soldier. Other installation management initiatives, such as seizing the good ideas generated at installation level and aggregating base operations management function under a single process owner at HQDA, will enhance and standardize quality of that service throughout the Army. In the Army XXI Institutional Force these initiatives will likely be exploited by having fewer MACOMs responsible for base operations.

Chapter 9
Implications

In this chapter the most significant implications of undertaking a redesign of the Institutional Force according to the principles developed in the forgoing conceptual framework (Chapter 3) will be outlined. The implications listed hereunder are a beginning, to be amended or superseded as the concept changes in the future. The traditional DTLOMS format is used to categorize the implications, but has been modified in two respects:

The Soldiers category has been broadened to include all categories of personnel and has been retitled "People". Management category has been added in view of the various management issues that go beyond the leadership factor in the Institutional Force.

9–1. Doctrine

a. Military doctrine and its derivative tactics, techniques and procedures which prescribe how the Operational Force fights have long been a pillar of the Army's culture and today stands first among the six imperatives. But there is no comparable body of thought that describes how the Institutional Force shall discharge the Department of the Army's Title 10 responsibilities. There are isolated doctrinal publications that prescribe how certain tasks shall be performed and regulations prescribing how TDA commands shall be organized, but an overall doctrinal hierarchy is lacking. As operations in Somalia and Haiti have illustrated, the fully interactive nature of the Operational and Institutional Forces are driving a need for development of a doctrinal foundation for the Institutional Force. FM 101–5, Staff Organization and Procedures, for example, should reflect the blending relationship between TDA and MTOE, information processes, C4I organizational relationships, information operations procedures, and so forth.

b. There is at present a confusing and contradictory menu of terminology in use to describe the workings of the Army, both operational and institutional, starting with those terms themselves. Roles, missions, competencies, capabilities, processes and functions are all included. The Army imperatives and five modernization objectives are also used as competencies, capabilities and/or functions and measures of effectiveness. As part of the emerging common body of thought for the Operational Force and Institutional Force, a new, approved Force XXI terminology will also emerge.

c. It has been assumed that the DTLOMS implications emanating from TRADOC Pam 525–5 would significantly affect the way in which the Institutional Force would organize, prepare, provide and sustain the Operational Force for employment by the CINCs. Rather, it may be that other conditions such as strategy, resources or

other factors may have greater weight in reengineering the Institutional Force. As the concepts herein and in TRADOC Pam 525–5 continue to evolve as living documents, the potential impact of Force XXI operational implications on the future support to be provided by the Institutional Force must be continually reassessed.

d. The end-state for DA Pam 100-XX envisions an environment with little to no major forward deployed ground forces and the consequent necessity to deploy most if not all Army XXI elements from CONUS bases. The Total Power Projection concept will create significant changes in C2, strategic lift and sustainment. The concept of Total Power Projection will have profound functional effects on both the Operational Force and Institutional Force. The impact on joint operations must also be assessed.

e. Examples of split-based operations have provided insights into more efficient sustainment in the areas of intelligence processing and logistics inventory control, as benefits conferred by advanced C4I systems. It is likely that split-based operations can provide significant advantages in many other functional areas within the Institutional Force. Because use of this method of operation has such a fundamental impact on the institution and its organization, the potential for increased use of split-based operations should be considered in all practicable applications in both the Institutional and Operational Forces.

9–2. Training

a. Information age technology has given trainers the opportunity to significantly change the balance of institutional, unit and self-development training. Traditionally institutional training has been considered to be highly effective, but is also most expensive and requires trainees/students to be absent from units or workplace. Past efforts to change the balance or reduce institutional training requirements have tended to reduce training quality. In the future, distance learning technology will enable trainers/students to receive quality institutional training in units.

b. Conceptually the acquisition and training of Force XXI personnel is included within Develop the Force institutional core capability and both functions are included within the personnel life cycle. Actual acquisition is performed by different agencies and commands, but institutional training of individuals is currently conducted almost exclusively by TRADOC. Under the Army XXI reengineering it may be both more efficient and effective to conduct all personnel acquisition and training under one command. While this approach has been studied in the past without significant change, the dynamics that justify institutional reform as we approach the 21st century may also justify a holistic approach to managing the people comprising the Army of 21st century.

9–3. Leader Development

a. The implications addressed here are similar in scope to the preceding one. Leader training and acquisition is conducted mainly by TRADOC with certain exceptions:

(1) USMA is a FOA reporting to HQDA (DCSPER).

(2) USAWC (US. Army War College) is a FOA reporting to HQDA (DCSOPS).

(3) ARNG OCS is conducted by states and territories.

(4) Special professional branches recruit officer by direct appointment.

b. Here, too, a holistic approach to leader development and acquisition suggests further consolidations under the conditions of Force XXI operational and institutional redesign.

9–4. Organization

a. A corollary to doctrinal reform of the Institutional Force will be an exhaustive review of the Army's future force structure to determine appropriate levels to be allocated to institutional and operational forces. This will require development of the equivalent of allocation and existence rules and workload factors for institutional organizations. The review must go beyond the traditional manpower requirements determination process and using technology, determine new procedures to link staffing to workload to create a baseline methodology, which will be the objective of this review.

b. Attendant to the need for institutional organizational rules is the necessity to enforce more discipline in related documentation. The Army has been criticized for lack of a system to document both military and civilian manpower requirements in the institution. This problem is partially the result of inadequate planning data and assumptions, but also stems from an undisciplined, decentralized requirements determination and documentation process that lacks a rigorous authorization review mechanism. The challenge is to implement a system that is an accurate, disciplined authorization review system for institutional organizations that can usher the Army into the 21st century.

c. The blurring of distinction between deployable and non-deployable CS and CSS units and personnel at EAC, raises the question of why the Army should continue to maintain separate organization documents at that level. Developing a system of documentation for institutional organizations based on standard rules and planning data further erodes the case for the distinction between TDA and MTOE. Deployable civilian personnel is also a factor to be considered. As Army XXI moves into the next century there may no longer be separate authorization documents for EAC organizations. Authorizing documents may need to incorporate deployability capability, contracting capability, state of the art automated data processing and communications. The Army has previously explored the concept of a Requirement/Authorization Document, or RAD, and found it to be positive. Army XXI will require implementation of this concept.

d. The Army XXI Institutional Force redesign concept suggests alternative organizational models capable of discharging the Title 10 functions. It is suggested that the processes and functions performed by the functional MACOMs and FOAs be assimilated by the integrating MACOMs to improve efficiency and reduce the number of MACOMs and FOAs. In describing the organizational models it is assumed that some of the functional MACOMs and FOAs will be disestablished with their functions discontinued or performed by one or more integrating MACOMs. In conjunction with developing the Army XXI Institutional Force doctrine, an objective organizational model will be developed to better define the actual number and construct of the Army's future MACOMs.

e. TRADOC has developed the battle labs to experiment with the most promising concepts and technologies to support the changing battle dynamics. While the battle lab process is functionally oriented to parallel the dynamics, the traditional branch oriented combat developments organization was left in place to develop requirements. Both draw from the limited pool of experienced officers capable of good combat developments work. While there has been some overlap in the past, the RDBB clearly documents the diverse functions of each of these elements. Working within the cluster concept of centers and satellites, TRADOC must ensure that discipline remains in the system to most effectively and efficiently serve as the operating core of the organizational model's "Develop the Force" design of the future.

9–5. Materiel

a. Since its inception, CBRS has stressed the need for a concept of battlefield employment as the prerequisite of requirements development, particularly in the case of organization and materiel requirements. For an industrial-age Army that anticipated a prolonged materiel development process for any major item new start, CBRS worked well. In the information-age where technology development is so rapid and for an Army that can now anticipate few major item new starts, the concept development process may have to yield to the technology opportunity more often than in the past. In the 21st century information-age technology will accelerate greatly the cycle time from concept to product with concomitant impacts on the overall acquisition cycle itself.

b. Recently instituted acquisition efficiencies by OSD and a more streamlined defense industry may at last set up the conditions that will significantly reduce the acquisition cycle. This is consistent

with the information-age shortening of the technology development cycle. Army XXI must facilitate and be able to take advantage of these conditions as it has through both the technology generation and application program and the user-industry-developer interface in the battle lab process.

9–6. People

a. Post-Cold War conditions provide the opportunity to significantly reduce the personnel turbulence that in the past has contributed to unit readiness problems. In addition to technological superiority, Army XXI units must have high standards of teamwork and the mutual confidence that comes in well-led organizations that train and work together over time. Personnel, training and replacement policies that affect unit stability are all candidates for review with a vision of unit cohesion and enhanced readiness through stability.

b. Increased use of civilian and contract personnel in both the sustaining base and the theater of operations will expand a trend that began with operation Desert Storm. The era of the deployable civilian employee will require changes in procedures and policies involving mobilization, training, organization, leader development, military justice, benefits and others. Policies affecting civilian personnel employment will be developed to broaden and enhance their ability to serve in all components of Army XXI.

c. While reducing personnel turbulence within units will have a positive impact on family life, the demands of training and operations will continue to create stress. Soldiers need to know that their families are secure when their units deploy. Including family support programs in command operating plans, and subsequent implementation of those programs, are essential components of unit readiness.

9–7. Management

a. Portions of the Secretariat and the Army Staff having similar functional interests can be integrated without detracting from civilian control of the military. Partial integration exists now and additional integration is feasible in the interest of efficiency. Total integration is possible, but questionably desirable for the reasons expressed in Chapter 4. The integration issue should be addressed as a part of the redesign effort: first, because it may be in the Army's interest as a means of making staff reductions; and secondly, because external pressures may direct more integration and the Army should be ready with a fully articulated response.

b. The concepts in this pamphlet provide a framework for achieving efficiencies by the disestablishment of MACOM HQ and FOAs, in accordance with the principles of the Institutional Force Redesign Charter. Efforts to disestablish any MACOM or large FOA will be strenuously resisted by the commander and its HQDA proponents. To succeed, it will be necessary to show conclusively that very large cost savings and/or operational efficiencies associated with the ultimate Force XXI will result. In fact, the immediate cost savings from disestablishing even a large MACOM HQ like TRADOC or FORSCOM are surprisingly small. The near-term military personnel appropriation (MPA) and OMA savings would be less than the savings achieved by the deactivation of just one combat brigade. As outlined in Chapter 4, it is probably in the long-term second order effects that larger savings and operational efficiencies will be made.

c. Devolution is one of the enabling principles by which the HQDA Staff can be reduced, through the transfer of planning and implementation functions either to lower levels or to other government agencies. The development and approval of doctrine is an example of a function that has been successfully devolved to MACOM and lower levels. The tradeoff for devolution is usually a loss of responsiveness. The organizing principle of leveraging information provides the potential to have devolution without sacrificing responsiveness and the example of devolving the processes associated with force management to MACOM level is given to show how it could work. Devolution of responsibility by leveraging information, an organizing principle within the TDA reengineering process, is essential.

d. Six years after the post-cold war drawdown began, the Army has been successful in closing down overseas bases quickly and efficiently. Domestically, the Army still operates too many facilities. After three BRAC commissions, relatively few Army CONUS installations have been scheduled for closure, the main exception being plants and depots. To significantly reduce operating costs the Army will continue to consolidate and regionalize both installations and leased facilities.

e. A new culture, in which the active Army provides greater assistance but also places more responsibility on the reserve components, will be developed as part of Army XXI. Asking the ARNG and USAR to perform in a myriad of new mission areas, previously performed by only active forces is one way to increase RC empowerment. This trend to pursue and expand other ways to place greater reliance on the RC for responsibilities that go beyond traditional roles will continue into the 21st century.

f. The availability, distribution and use of information is an enabling asset that pervades all aspects of the Operational Force and the Institutional Force. A vast industrial base has emerged to meet the information processing needs of both the public and private sectors. Within the Defense Department a commensurably vast bureaucracy has been established to guide and oversee all aspects of information systems development and integration into the Services. Within the Army, information commands, agencies, directorates and staffs are found at all levels of organization. If winning the information war is to be a primary vector of change in the successful development of Army XXI, and an organizing principle for the Institutional Force of the 21st century, the user must control the direction of information systems development. To that end the Army will develop processes that reduce information systems management overhead through increased user involvement and access to information technologies, while adhering to interoperable technical standards. At the same time, the HQDA CIO must provide architectural guidance and oversight to ensure coherent acquisition of a seamless, responsive information infrastructure to support operational forces and the institutional Army.

g. Most services provided by the stovepipe organizations referred to in Chapter 7 and many other services being performed at all levels of the Institutional Force from HQDA through installation, support military missions, but, are not uniquely military in nature. Privatization and commercial contracts for services have been effective alternatives to in-house operations throughout the Army's history. New initiatives are being considered now and should be attempted on a broader scale in Army XXI. The Army must continue to seek out opportunities for privatization of services on an Army-wide basis with core analysis to achieve the objective of greater cost savings for more efficient operation.

Appendix A
References

Section I
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Major Army Commands in the Continental United States

AR 10–88
Field Operating Agencies

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The Army

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Force Integration

HQDA Report
Report of the Special Review Panel on Department of the Army Organization

HQDA Report
Operation STEADFAST Detailed Plan

HQDA Report
Redistribution of BASOPS/Unit Structure within TDA (ROBUST) Final Report

HQDA Report
United States Army Reserve Command and Control Study Final Report

HQDA Report
Project VANGUARD Final Report

HQDA Report
Transformation Study

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Development and Management of Operational Concepts

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Section III
Prescribed Forms
This section contains no entries.

Section IV
Referenced Forms
This section contains no entries.

Glossary

Section I
Abbreviations

AAE
Army Acquisition Executive

ABCS
Army Battle Command System

AC
Active Army

AC/RC
Active Component/Reserve Component

ACSIM
Assistant Chief of Staff for Installation Management

ACT II
Advanced Concept Technology II

ALRPG
Army Long Range Planning Guidance

AMC
Army Material Command

AMEDD
Army Medical Department

AMOPES
Army Mobilization and Operations Planning and Execution System

AMRMC
Army Medical Research and Materiel Command

AMSC
Army Management Staff College

AR
Army Regulation

ARNG
Army National Guard

ARPERCEN
Army National Guard Personnel Directorate

ARSTAF
Army Staff

ASA(ILE)
Assistant Secretary of the Army for Installations, Logistics and Environment

ASA(M&RA)
Assistant Secretary of the Army for Manpower and Reserve Affairs

ASA(RDA)
Assistant Secretary of the Army for Research Development and Acquisition

ASC
Army Signal Command

ASCC
Army Service Component Command

ASG
Area Support Group

ATD
Advanced Technology Demonstrations

AWE
Advanced Warfighting Experiment

BMM
Borrowed Military Manpower

BRAC
Base Realignment and Closure

C2
Command and Control

C3
Command, Control and Communication

C4
Command, Control, Communication, and Computers

C4I
Command, Control, Communication, Computers and Intelligence

CBRS
Concept Based Requirements System

CECOM
Communications-Electronics Command

CEP
Concept Experimentation Program

CIA
Central Intelligence Agency

CID
Criminal Investigation Detachment

CIDC
Criminal Investigation Command

CINC
Commander's-in-Chief

CIO
Corporate Information Officer

CJCS
Chairman of the Joint Chiefs of Staff

CNGB
Chief, National Guard Bureau

COE
Corps of Engineers

CONARC
Continental United States Army Command

CONPLAN
Contingency Plan

CONUS
Continental United States

CORM
Commission on Roles and Missions

COTS
Commercial-off-the-Shelf

CP
Command Post

CRADA
Cooperative Research and Development Agreements

CS
Combat Support

CSS
Combat Service Support

CTC
Combat Training Center

DA
Department of the Army

DCPDS
Defense Civilian Personnel Data System

DCSINT
Deputy Chief of Staff for Intelligence

DCSLOG
Deputy Chief of Staff for Logistics

DCSOPS
Deputy Chief of Staff for Operations and Plans

DCSPER
Deputy Chief of Staff for Personnel

DDL
Doctrine Digital Library

DIS
Distributed Interactive Simulation

DLA
Defense Logistics Agency

DMRR
Defense Manpower Requirements Report

DoD
Department of Defense

DOMS
Director of Military Support

DPCA
Director of Personnel and Community Activities

DPPC
Defense Planning and Programming Categories

DTED
Digital Terrain Evaluation Data

DTLOMS
Doctrinal, Training, Leader Development, Organizations, Materiel and Soldier Systems

EAC
Echelons above Corps

FAA
Functional Area Assessment

FEB
Field Exercise Brigades

FM
Field Manual

FOA
Field Operating Agencies

FORSCOM
Forces Command

FPI
Functional Process Improvement

GOSC
General Officer Steering Committee

GS/DOL
General Support and Director of Logistics

HQDA
Headquarters Department of the Army

IET
Initial Entry Training

INSCOM
Intelligence and Security Command

IPT
Integrated Process Team

IRR
Individual Ready Reserve

ISC
Information Systems Command

ISM
Integrated Sustainment Maintenance

ITV
Intransit Visibility

JAG
Judge Advocate General

JCS
Joint Chiefs of Staff

JOPES
Joint Operation Planning and Execution System

JROC
Joint Requirements Oversight Committee

JSPS
Joint Strategic Planning System

LIN
Line Item Number

LSE
Logistics Support Element

MACOM
Major Army Commands

MDW
Military District of Washington

MEDCOM
Medical Command

MI
Military Intelligence

MICOM
Missile Command

MOS
Military Occupational Specialty

MP
Military Police

MPA
Military Personnel Appropriation

MPRS
Mission Planning Rehearsal System

MRC
Major Regional Contingency

MTMC
Military Traffic Management Command

MTOE
Modified Table of Organization and Equipment

MWR
Morale, Welfare and Recreation

NAF
Non-appropriated Fund

NATO
North Atlantic Treaty Organization

NCA
National Command Authority

NCO
Non-Commissioned Officers

NGB
National Guard Bureau

NDI
Non-Developmental Item

NMS
National Military Strategy

NSN
National Stock Number

NSS
National Security Strategy

OCS
Officers Candidate School

OJCS
Organization of the Joints Chiefs of Staff

OMA
Operations and Maintenance Appropriations

OMB
Office of Management and Budget

OOTW
Operations Other than War

OPLAN
Operations Plan

OPMS
Officer Personnel Management System

OPTEMPO
Operating Tempo

OSA

Office of the Secretary of the Army

OSD
Office of the Secretary of Defense

PA
Public Affairs

PERSCOM
Personnel Command

PM
Program Manager

PEO
Program Executive Officer

POM
Preparation for Overseas Movement

PPBES
Planning, Programming, Budgeting and Execution System

PPBS
Planning, Programming, and Budgeting System

PPP
Power Projection Platform

PSP
Power Support Platforms

RAD
Requirement/Authorization Document

RC
Reserve Component

R&D
Research and Development

RRDBB
Requirements Determination Black Book

RDA
Research Development and Acquisition

RDEC
Research Development and Engineering Center

RDT&E
Research Development Test and Evaluation

RMA
Revolution in Military Affairs

RSC
Regional Support Command

RTB
Regional Training Brigade

ROTC
Reserve Officer Training Corps

SBIR
Small Business Innovative Research

SSA
Staff Support Agencies

SSDC
Space and Strategic Defense Command

SASO
Stability and Support Operations

STO
Science and Technology Objective

STOW
Synthetic Theater of War

TAA
Total Army Analysis

TAACOM
Theater Army Area Command

TAP
The Army Plan

TAV
Total Asset Visibility

TDA
Tables of Distribution and Allowances

TDP
Total Distribution Program

TOE
Table of Organization and Equipment

TPF
Total Package Fielding

TPFDL
Time Phased Force Deployment List

TRADOC
Training and Doctrine Command

TRANSCOM
Transportation Command

TSG
The Surgeon General

TTP
Tactics, Techniques and Procedures

UAV
Unmanned Aerial Vehicles

USACE
United States Army Corps of Engineers

USAR
United States Army Reserve

USARC
U.S. Army Reserve Command

USAREUR
United States Army Europe

USARPAC
United States Army Pacific

USARSOUTH
United States Army South

USARSPACE
United States Army Space Command

USARTRANS
United States Army Transportation Command

USASOC
United States Army Special Operations Command

USAWC
United States Army War College

U.S.C
United States Code

USMA
U.S. Military Academy

VCSA
Vice Chief of Staff of the Army

WMD
Weapons of Mass Destruction

Section II
Terms
This section contains no entries.

Section III
Special Abbreviations and Terms
This section contains no entries.

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